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Vol. II

TRANSCRIPT OF RECORD

Supreme Court of the United States

OCTOBER TERM, 1933

No. 440

BENJAMIN F. LINDHEIMER AND OTHERS, CONSTITUTING THE ILLINOIS COMMERCE COMMISSION OF THE STATE OF ILLINOIS; OTTO KERNER, ATTORNEY GENERAL OF THE STATE OF ILLINOIS, AND THE CITY OF CHICAGO, APPELLANTS,

vs.

ILLINOIS BELL TELEPHONE COMPANY

No. 548

ILLINOIS BELL TELEPHONE COMPANY, APPELLANT,

vs.

BENJAMIN F. LINDHEIMER AND OTHERS, CONSTITUTING THE ILLINOIS COMMERCE COMMISSION OF THE STATE OF ILLINOIS; OTTO KERNER, ATTORNEY GENERAL OF THE STATE OF ILLINOIS, AND THE CITY OF CHICAGO

APPEALS FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE NORTHERN DISTRICT OF ILLINOIS

FILED SEPTEMBER 8, 1933

FILED OCTOBER 25, 1933

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1933

No. 440

BENJAMIN F. LINDHEIMER AND OTHERS, CONSTITUTING THE ILLINOIS COMMERCE COMMISSION OF THE STATE OF ILLINOIS; OTTO KERNER, ATTORNEY GENERAL OF THE STATE OF ILLINOIS, AND CITY OF CHICAGO, APPELLANTS,

vs.

ILLINOIS BELL TELEPHONE COMPANY

APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE NORTHERN DISTRICT OF ILLINOIS

VOL. II

INDEX

		Page
Testimony of	Donald R. Belcher	1049
	Jonathan G. Sharp	1059
	A. D. Grote	1061
	W. R. Kruse (recalled)	1066
	R. H. Gregory (recalled)	1069
	U. F. Cleveland (recalled)	1077
	Charles A. Heiss (recalled)	1086
	John R. Turner (recalled)	1097
	Charles A. Heiss (recalled)	1144
	Edward E. Brown	1153
	Charles A. Heiss (recalled)	1155
	G. L. Woodford	1177
	George E. Fork	1211

JUDD & DETWEILER (INC.), PRINTERS, WASHINGTON, D. C., SEPTEMBER 20, 1933

	Page
Testimony of George A. Campbell	1230
John Edward Otterson	1239
W. K. Kruse (recalled)	1257
M. H. Riley (recalled)	1269
W. K. Kruse (recalled)	1271
R. H. Gregory (recalled)	1274
John R. Turner (recalled)	1278
W. F. Sloan (recalled)	1297
R. H. Gregory (recalled)	1330
F. M. Williams	1351
Allen G. Hoyt (recalled)	1355
F. M. Williams (recalled)	1367
R. H. Gregory (recalled)	1367
William H. Egan	1379
John R. Turner (recalled)	1384
L. G. Woodford (recalled)	1392
W. K. Kruse (recalled)	1394
William H. Egan (recalled)	1401
James C. Burton	1402
W. K. Kruse (recalled)	1403
Allan B. Crunden (recalled)	1403
W. F. Sloan (recalled)	1421
L. G. Woodford (recalled)	1424
John R. Turner (recalled)	1426
Allan B. Crunden (recalled)	1434
G. W. Cummings	1439
John S. Hagberg	1589
George B. McCann	1614
R. C. Rainwater	1687
Cyrus G. Hill	1710
K. E. Tholin	1718
W. M. Hammond	1738
R. C. Rainwater (recalled)	1750
Cyrus G. Hill (recalled)	1761
R. C. Rainwater (recalled)	1773
Mathilda Galster	1829
Charles R. Whitworth	1833
K. E. Tholin (recalled)	1841
George B. McCann (recalled)	1844
W. H. Hammond (recalled)	1871
K. E. Tholin (recalled)	1880
George B. McCann (recalled)	1901
R. C. Rainwater (recalled)	1912
J. G. Wray	1921
K. E. Tholin (recalled)	1993
J. G. Wray (recalled)	2012
R. C. Rainwater (recalled)	2024
W. M. Hammond (recalled)	2047
Stipulation re methods used in compiling exhibits	2051
Offers in evidence	2052

IN THE

District Court of the United States

FOR THE NORTHERN DISTRICT OF ILLINOIS,

EASTERN DIVISION.

ILLINOIS BELL TELEPHONE COMPANY,
Plaintiff,

vs.

G. GALE GILBERT, J. PAUL KUHN, WALTER H. WILSON, WILLIAM M. BRINKMAN, PHIL W. COLLINS and PAUL SAMUELL, the persons constituting the Illinois Commerce Commission of the State of Illinois, and OSCAR E. CARLSTROM, Attorney General of the State of Illinois,
Defendants,

and

CITY OF CHICAGO, a municipal corporation,
Intervenor.

In Equity
No. [illegible]

Heard before
Hon. Evan A. Evans
Hon. George T. Page
Circuit Judges
and
Hon. James H. Williams
District Judge.

ABSTRACT OF RECORD

PLAINTIFF'S EVIDENCE

VOLUME IV—(Pages 1049 to 1437)

WILLIAM H. SEXTON,
Corporation Counsel, City of Chicago.

GEORGE I. HAIGHT, and
BENJAMIN F. GOLDSTEIN, and
EDMUND D. ADCOCK,
On behalf of City of Chicago,
Intervenor.

OSCAR E. CARLSTROM,
Attorney General of Illinois,
and
WILLIAM C. CLAUSEN,
Assistant Attorney General,
On behalf of Illinois Commerce
Commission.

CHARLES M. BRACELEN,
WILLIAM H. THOMPSON,
KENNETH F. BURGESS,
EDWARD L. BLACKMAN,
On behalf of Plaintiff.

HORACE KENT TENNEY,
LESLIE N. JONES,
Of Counsel.

BARNARD & MILLER PRINT, CHICAGO

IN THE

District Court of the United States

FOR THE NORTHERN DISTRICT OF ILLINOIS,

EASTERN DIVISION.

ILLINOIS BELL TELEPHONE COMPANY,
Plaintiff,

vs.

G. GALE GILBERT, J. PAUL KUHN, WALTER H. WILSON, WILLIAM M. BRINKMAN, PHIL W. COLLINS and PAUL SAMUELL, the persons constituting the Illinois Commerce Commission of the State of Illinois, and OSCAR E. CARLSTROM, Attorney General of the State of Illinois,
Defendants,

and

CITY OF CHICAGO, a municipal corporation,
Intervenor.

In Equity
No. 3746.

Heard before
Hon. Evan A. Evans
Hon. George T. Page
Circuit Judges
and
Hon. James H. Wilkerson
District Judge

ABSTRACT OF RECORD

Plaintiff's Evidence

Volume IV—(Pages 1049 to 1437)

DONALD R. BELCHER, called as a witness on behalf of the plaintiff, having been first duly sworn, testified as follows:

Direct Examination by Mr. Blackman.

May 23, 1932

3065 I am Assistant Chief Statistician of the American Telephone and Telegraph Company, which position I have held about six or seven years. I am in general charge of those phases of statistical research which involve actuarial or other mathematical procedures lying beyond the scope of ordinary statistical analysis. That has been the character of my duties for the whole period during which I have been Assistant Chief Statistician. I have been associated with the Bell System a little more than twelve years. Prior to the time when I became Assistant Chief Statistician, the character of my work was substantially the same as it has been since.

I was graduated from Kalamazoo College, Kalamazoo, Michigan, in 1909, with the degree of Bachelor of Arts,
3066 having specialized in mathematics. For a period of about nine years thereafter I devoted my attention to the teaching and further study of mathematics, and, in connection with this further study, I was granted the degree of Master of Arts by Columbia University in 1915. My teaching experience was very largely in the field of college mathematics, and for four years, beginning with 1914, I was a member of the mathematical faculty of Columbia University. Then, with one year of service in the Army, I entered the employ of the American Company in the fall of 1919.

My work as Assistant Chief Statistician brings me in contact with the pension plan of the American Telephone and Telegraph Company. Shortly after I entered the employ of the Company, I was asked to familiarize myself with the provisions of the Employees' Benefit Plan, and, in particular, with the pension plan which is a part of it, and also the

operations under that plan, and to analyze the experience of the companies in administering this plan and study the trend of current and probable future costs of operation under
3067 it. I have been responsible for the determination of the basic accrual rates upon which the charges of the various companies of the Bell System were made, and upon which the payments of those companies to the trustee of the pension fund were also made.

Each of the associated companies has a pension plan, and all of them are identical with the American Company plan.

In determining those accrual rates, I have had available and have used various censuses of the employees of the Bell System companies. In the early years, there was a census in 1912, one in 1914, one in 1917 and one in 1920, and there has been one every year subsequent to 1920, as of the end of each year. In addition to that census information, which covers active employees, I have a record of all the cases of pensions granted, or pensions on the roll subsequent to 1913, showing age at date of granting of the pension, the sex
3068 of the pensioner, the amount of pension and the date of death of the retired employee, in case that death has occurred, down to the present time. The census did and does show the number of employees by sex, age, term of service, full term of service, rate of pay, and classification as regular, part-time, or temporary.

I heard the testimony of Dr. Hunter here the other day. The methods which I followed in determining these accrual rates which I recommended to the associate companies are substantially the same as those to which he testified. There are possibly two significant differences. One of them is that in our analysis we use, first of all, the combined experience of all of the Bell System companies, exclusive of the Western Electric Company, and determine the basic rates of accrual on the basis of that combined experience, representing in the last few years an average of over 300,000 employees; and then we apply those basic rates to the proper distribu-
3069 tion of payrolls of the separate companies, whereas I understood Dr. Hunter to say that he had limited his

analysis to the experience of the Western Electric Company, whose pension accruals he was determining. The other difference that would seem important enough to mention is that I understood Dr. Hunter to say that the accruals which he determined included provision for the additional liabilities incurred by the Western Electric in connection with the bridging of breaks of service of the employees of that company, whereas the accruals which I have determined made no provision for a similar situation in the telephone companies.

3070 The Telephone Company bridges its breaks and the general rule and policy, as I understand, prevails in the Western Electric. I believe the Telephone Company has published to its employees a definite schedule in regard to bridging the breaks. I do not know the extent to which that has been circulated, but it is generally understood as a definite and accepted policy, namely, that after an employee has been in the Company and out again, if he later returns to the employ of the Company, or of any other of the affiliated companies within the benefit plan, upon the completion of ten years of uninterrupted service after the date of his last return to the Company he is automatically credited with all prior service prior to his break. The liability with respect to that additional time is a real substantial liability. It may be slight in the case of some people whose additional credit is a matter of a few months, but in the case of many employees the additional credits amount to a good many years.

3071 The pension plan of the Bell System companies was established as of January 1, 1913. The method of making annual accruals on a mathematical basis was begun as of January 1, 1927. The amounts or rates which I have recommended have not taken into account any differences between the liabilities which accrued prior to 1927 and the provisions made to meet those liabilities. They have been designed to take care of the liabilities accruing only subsequently to January 1, 1927. That is, these rates which I have recommended and which have been put into force and effect by the several associated companies have not attempted to fill up the hole, if any, that existed prior to 1927. They have

merely been designated to take care of the accruing liabilities that accrued from that time forward.

3072 Prior to 1927, the companies made no advance accrual provisions. They charged to expense only those amounts which were actually disbursed in the way of pension payments to retired employees under the pension plan.

In my opinion, the rates which I recommended in 1928 and subsequent years were no more than the minimum amounts required to meet the liabilities of the companies, which accrued in each of the years which I have mentioned, with respect to their obligations to their employees, exclusive of all obligation in connection with the bridging of service breaks.

In addition to determining the pension accruals for the Bell System as a whole, exclusive of the Western Electric, I established the individual rates for the various associated companies, including the Illinois Bell. In obtaining the rates which I recommended to the Illinois Bell, in the beginning, on the basis of Bell System experience, we determined twelve basic rates of accruals analogous to the group of basic
3073 rates Dr. Hunter described in his testimony. That is, we divided all employees as between male and female into age-at-entry groups, because we found greater homogeneity by that type of analysis. For each of those age-at-entry groups for the Bell System as a whole we found appropriate rates of accrual through the same kind of procedure that Dr. Hunter described. That gave us, then, for the Bell System as a whole twelve basic rates for a given year.

Our problem then, since those rates varied somewhat by age, sex, and by age at entry, was to properly weight those twelve rates so that they would be a proper accrual for the individual company. In the case of the Illinois Bell Telephone Company we took the census data as to payroll distribution of the employees of that Company, showing the distribution as between male and female employees, and further as between the six age-at-entry groups for male employees and six for female employees, and by means of that payroll distribution weighted together these twelve basic rates, and arrived at the

composites for male and for female representing the proper accruals for the year in question.

I mean by that that I found out the number of employees on the payroll and the money that they were getting in each of those twelve classes with respect to the Illinois Bell.
3074 I applied the separate rates developed for each class to the several employees in that class. Perhaps to make it clear I ought to explain that we have that type of data only once a year. The regular payroll routines of the telephone companies would not show a distribution as between these different age-at-entry groups; it is only when the employees census is taken that we have that information, as we use that information to fix the composite rate for male, and the composite rate for female employees, and then the company is able to use that rate in conjunction with payrolls for the year.

The assumption that underlies that procedure is that the experience of the Illinois Bell Company as to all of the basic factors, such as rate of separation of employees from service and rates of salary advancement, and similar factors, is sufficiently in harmony with the average for the System as a whole so that it is proper and fair to apply these basic rates to the payrolls of the Illinois Company. That is the only
3075 assumption that I have made in order to make it mathematically correct to use the Bell System rates for application to the employees of the Illinois Bell.

I have made the following checks in order to determine the reasonableness of this assumption. I have from time to time examined the matter of rates of separation and the matter of rates of salary advancement. From year to year there are fluctuations in each company and over a period there are deviations as between a single company and the System average, but those deviations in the case of the Illinois Bell Company were not such, in my judgment, as to justify a separate determination of accrual rates for that Company. I did go far enough to find out that if we had taken those differences into consideration over this period in question, the accrual rates would have been slightly higher, in all probability, for

the Illinois Company, than the results of applying the Bell System rates to the payroll of the Illinois Company. I
3076 am not speaking now of the rates which would have been required to meet the annual accrual liabilities including those arising from the bridging of breaks in service; in all that I have said, I have consistently excluded the liabilities in conjunction with the bridging of breaks in service.

The document marked for identification as Plaintiff's Exhibit A-173 was prepared under my direction and supervision. This paper shows a tabulation of the basic accrual rates for service pensions; that is, based on Bell System experience, which were used in the determination of the annual accruals for the separate Bell System companies. That is divided between male employees in the upper half of the paper and the female employees at the bottom, and shows for each of the years 1928 to 1931, inclusive, the rates applicable to the payrolls, according to the age-at-entry groups.

3077 The paper marked for identification as Plaintiff's Exhibit A-174 was prepared under my supervision and direction. This paper shows for the Illinois Bell Telephone Company for each of the years 1923 to 1931, inclusive, the accruable payroll of that Company; that is, the total accruable payroll for each year, and in the last column shows the amounts of accruals which were made by that Company; that is, the amounts that were charged to expense and that were paid over to the trustee of the pension fund. By "accruable payroll", I mean that payroll upon which the provisions of the pension plan are based; that is, that represents the payroll which most accurately defines the obligations of the company under the pension plan. It differs somewhat from the
3078 actual payrolls. In general, it is considerably below, I mean, under normal circumstances it is considerably below, because it includes no overtime payments, or payments to telephone operators, for traffic differentials, or things of that kind. On the other hand, it does represent full time pay of all regular employees, so that in a period like the present, when there is some degree of part time employment, this so-called accruable payroll may be higher, and, in the case of the Illinois Bell Company, is higher than the actual payroll.

I deal with the accruable payroll rather than the actual, because it represents the obligations of the Company in respect of service pensions.

The paper marked Plaintiff's Exhibit A-175 was prepared under my direction and supervision. It shows for the years 1923 to 1931 inclusive, and also as a total for the entire period, the disbursements of the Illinois Bell Telephone Company for its service pensions. By "disbursements" I mean
3079 payments actually made to the beneficiaries under the pension plan. It has been necessary to divide those figures up a bit in order to have them check out with the books. The first column shows the amount actually charged to expense during the years 1923 to 1926, inclusive. During that period the Company had a benefit fund reserve, which had been set up out of surplus in the past, to which these disbursements were, in the first instance, charged, and at the end of the year those charges were cleared and the reserve was restored through charges to expense, so that in the last analysis these amounts shown in the four years were charged to the expenses of the Company. These are the transactions that are shown on the books of the Illinois Bell itself. I say they are shown on the books; it has been necessary in the years 1923 and 1924 to go to subsidiary records in order to exclude certain payments for disability pensions, because we are concerned only with service pensions.

The next column, headed "Charged to Benefit Reserve", shows charges for 2 years arising from this situation, that when the pension trust fund of the Illinois Bell Telephone Company was established, as of January 1, 1927, no
3080 initial contribution was made to that fund in excess of the actual accrual applicable to the year 1927, and for that reason it was determined that only those pensions which were granted subsequent to January 1, 1927, would be charged against the trust fund, so we find, in the year 1927, that only the small amount of $2,485, shown in the column headed "Charged to Trust Fund", was charged to the trust fund. That represented disbursements to pensions granted subsequent to the establishment of the trust fund. The balance of

the payments, namely, $34,153, represent payments to pensioners then on the roll who had been on the roll prior to this date, and those were charged against the benefit reserve. That situation continued into the next year, I think the middle of the year, at which time the Company transferred the entire benefit fund reserve over to the trust fund, and in the case of this Company that reserve was very much in excess of the liability with respect to previous pensioners, and, consequently, after that date all payments for all service pensions granted under the plan have been charged against the trust
fund. That explains the split there in the years 1927
3081 and 1928 and the fact that some $50,000 of disbursements for service pensions have never been charged as expense.

Then the following column, "Charged to Trust Fund", shows the amounts actually disbursed from the trust fund by reason of service pension payments under the plan. That is the total in the final column.

The paper marked Plaintiff's Exhibit A-176 was prepared under my supervision and direction. This shows for the general departments of the American Telephone and Telegraph Company figures as to accruable payroll and amounts of accrual analogous to those which I showed in a previous exhibit for the Illinois Bell Telephone Company, the accruable payroll being defined in the same manner here as it was in the case of the Illinois Bell Telephone Company. That is, this figure shows the same facts for the general departments of
the American Telephone and Telegraph Company that
3082 Exhibit A-174 shows for the Illinois Bell, and was prepared in the same way and on the same theory.

This tabulation did not require any apportionment as between general departments and the Long Lines. The payrolls representing expense figures are separately maintained by the Long Lines Department as separate from the general departments and the accruals were determined by us separately.

In my opinion, those figures shown in the years 1928, 1929, 1930 and 1931 are the minimum amounts to meet the liability

which accrued against the American Telephone and Telegraph Company with respect to its liability to its employees in the general departments for the several years mentioned.

In the year 1927 in both the case of the Illinois Bell and the general departments, I determined the amounts set aside for accrual, but by a somewhat different procedure than that used subsequently. In the year 1927 instead of an actuarial determination, which meant distributing the cost of the pen-
3083 sions over the entire service of employees, we employed a different procedure, namely, to spread the cost of pensions only over service after fifteen years. In other words, during the first fifteen years of an employee's service we would accrue nothing, and during the balance of his service we would accrue enough to provide a pension. That was used as a transition basis as between 1926, when no accruals were made, and 1928, when they were made on the full service basis. In the case of the Bell System total and in the case of nearly all of the separate companies, that pension accrual represented a smaller accrual than the full service pension accrual would have represented. It happened, however, in the American Company, on account of long terms of service and relatively high salaries at those long terms of service, that the fifteen-year basis resulted in a higher accrual in 1927 than we would have had on the full service basis. That was due to the long service and high rates of pay of the members of the Department of Development and Research, Operating and Engineering, and similar departments.

3084 The paper marked for identification Plaintiff's Exhibit A-177 was prepared under my direction and supervision. It shows for the general departments of the American Telephone and Telegraph Company the facts as to disbursements for service pensions for the years 1923 to 1931, inclusive, and the total. The description of the columns is the same as I stated in regard to A-175, and the transactions with regard to the benefit fund were analogous.

The paper marked for identification Plaintiff's Exhibit A-178 was prepared under my direction and supervision. It shows what the accruals would have been in respect to the

general departments of the American Telephone and Telegraph Company during the years 1923 to 1926, inclusive, and the total for that period, if in those years accruals had been made on the basis of the basic accrual rates which were
3085 actually used in the year 1928. In my opinion, it is proper to apply those rates backwards to determine the amounts which I purport to show.

In my opinion, the figures which I show as the rates which would have been accrued from 1923 to 1926 and the rates which were accrued from 1926 to 1931, inclusive, all represent minimum charges or minimum amounts to provide in recognition of the accruing and increasing obligation of the American Company to its employees, or to the employees of this department in those years, with the single exception that I have included no provision for the bridging of service breaks. That would make it still more conservative and would make the rates more insufficient.

(Plaintiff offered in evidence Exhibits A-173 to A-178, inclusive. No objection. Exhibits admitted.)

3086 *Cross-Examination by Mr. Goldstein.*

As I recall it, the Bell System or the Illinois Bell made a study in 1927 to determine if there was a deficiency in the reserve as of that date on the basis of the mathematical calculations used thereafter. I have not seen them for some years. I think we did at that time, though.

"Q. Do you know whether the Illinois Bell made up that deficiency in 1926 by transferring from the large surplus to the pension fund?

"A. Oh, no. The amount transferred from the— you said 'surplus', I suppose you mean the benefit fund reserve which was built out of the surplus. That amount was not adequate to cover the accrued liability on that date."

So far as I know, the deficiency existing in the reserve fund of 1927 was not made up in any way by the Illinois Bell through a transfer to the fund from the surplus of the
3087 Company. The deficiency has not been made up in any way only to the extent that the Illinois Bell transferred

to the fund its balance in the benefit fund reserve which had previously been built up out of surplus or undivided profit. There still was a deficiency after that transfer. That deficiency has not been made up in any way.

JONATHAN G. SHARP, called as a witness on behalf of the plaintiff, having been first duly sworn, testified as follows:

Direct Examination by Mr. Blackman.

My name is Jonathan G. Sharp. I am a member of the firm of Woodward, Fondilla and Ryan, Consulting Actuaries, in New York City. I have been in the active practice of
3088 the actuarial business about ten years. I studied and specialized in mathematics at Toronto University, and I am a Fellow of the Actuarial Society.

A few of the important corporations in the United States for which I do actuarial work are: The American Telephone and Telegraph Company, the International Telephone and Telegraph Company, the Commercial Cable, the American Locomotive, the Panama Railroad, John A. Roebling and Sons, F. C. Heit and Sons, New York City, New Jersey Teachers, and the Church Pension Fund, I think are the principal ones.

In connection with the pension plan of the Bell System, we have audited the accrual rates of the Bell System for the years 1927 to 1931, inclusive. That is, the accrual rates in connection with the pension plan that was referred to by Mr. Belcher.

3089 The exhibit marked for identification Plaintiff's Exhibit A-179 was prepared under my supervision and direction. It shows the amount which should have been accrued in the period 1923 to 1931 in order to accumulate the proper reserve to meet the benefits promised under the pension plan. In my opinion, the figures that are set forth in the third column of figures, headed "Excluding service breaks bridged", represent conservative figures which should have been provided in each of the years in question to meet the

accruing liability which I speak of, exclusive of service breaks. I have computed that liability, including service breaks; that is shown in the fifth column of the same exhibit.

The columns show the actual deficiencies in the years 1923 to 1931 by subtracting the amount that was charged to expense from these amounts that, in my opinion, should
3090 have been charged. Those deficiencies are shown in columns 6 and 7 of this exhibit. In column 6 they are shown exclusive of the liability, the accrued cost, rather, for service breaks bridged, and in the last column they are shown inclusive of the accrued charge or incurred cost for service breaks bridged.

(Plaintiff offered in evidence document marked Plaintiff's Exhibit A-179.)

3091 "Q. Now, did you verify the computations of Mr. Belcher with regard to the same accruing liabilities for the same years with regard to the employees of the general departments of the Illinois Bell?

"A. We have never gone in, in very great detail, to the individual companies, but I made a study recently in connection with that to see that the amounts charged for the general departments were minimum charges, and I found that was so. It is very obvious, to an actuary, at least, on looking over the factors, that they would be minimum amounts. The principal factors involved, that would involve any difference, the rate of retirement, there would be no change there."

I examined those elements and found that if the general factors for the Bell System as a whole were right that then the accruals for that department would be at least as high, or higher.

"Q. Now, in the course of your regular business, did you audit the accounts or rather the accruals and the methods followed by Bell System in building up its general accrual rates in the years 1928, 1929, 1930 and 1931?

"A. You mean, did I prepare accrual rates that could
3092 be applied to the general departments?

"Q. No, did you examine into their rates, the ones that Mr. Fletcher has prepared, and verify the correctness of his figures as minimum rates?

"A. Yes."

With regard to examining into the general rates for the Bell System, I did that currently as an ordinary employment in the general course of my business. I was specially employed recently to make this computation in regard to the Illinois Bell and I did that, and I was specially employed to check the rates of the general department of the American Telephone and Telegraph Company and I did that.

A. D. GROTE, called as a witness on behalf of the plaintiff, having been first duly sworn, testified as follows:

Direct Examination by Mr. Blackman.

May 24, 1932

3094 My name is A. D. Grote. I am Chief Accountant of
3095 Illinois Bell Telephone Company. I have held that position about two years. I have been connected with the Illinois Bell almost 22 years, all in the Accounting Department. My duties as Chief Accountant are to supervise the preparation of general accounting methods, care for the cost accounting work, statistical reports, and make special studies. I supervised the preparation of the document marked for identification as Plaintiff's Exhibit A-180. It shows the esti-
3096 mated annual additional cost to the Illinois Bell Telephone Company if all of its capital stock had been held by the public instead of chiefly by the American Telephone and Telegraph Company.

In estimating the number of stockholders that the Illinois Bell would have had under those circumstances, I assumed that all of the residents of the state of Illinois now holding American Telephone and Telegraph Company stock might be stockholders of the Illinois Bell Telephone Company and prepared this first statement on the basis of an average holding of 15 shares per stockholder. That is the average holding of

the stock of the American Telephone and Telegraph Company for the residents of the state of Illinois. Then I assumed that the average holdings of all of the shareholders of the American Telephone and Telegraph Company might be the maximum number we might expect the holders of the Illinois

Bell Telephone Company to have, and prepared the
3097 second statement on that basis; that is, about 30 shares per stockholder, which is the average shareholding for the holders of the American Company throughout the country.

The reason for the difference between the average shareholdings in Illinois and the average shareholdings throughout the country as a whole is that there is a greater number of larger holdings in the eastern section of the United States and in New England. In the central group of states, that is, Michigan, Wisconsin and so forth, the holdings of the American stock average about 20 shares per stockholder.

The figures shown in Column 1 of this exhibit is the estimated number of stockholders based on those 15 shares per holder, in the state of Illinois. I developed the figures in

column 3, headed "Additional cost of maintaining rec-
3098 ord of stockholders, transferring stock", etc. I also developed the figures in column 4 and I used the schedule of charges set by the Corporate Fiduciary Association, principally. Column 5 is just the sum of those two.

This sheet marked Plaintiff's Exhibit A-181 for identification is the one I said I prepared on the basis of 30 shares per stockholder. This sheet is prepared in a manner exactly similar to the one that I have already described. The sole difference is that I have assumed a holding of 30 shares per

stockholder instead of 15, as shown on the previous sheet.
3099 I supervised the preparation of these papers marked collectively Plaintiff's Exhibit A-182 for identification. On this third page of this exhibit I developed the figures which you used in columns 3 and 4 of the two preceding sheets. The first item on the first page, $10,000, is the cost of having an annual audit made by an outside concern to meet the customary requirements of the Chicago Stock Exchange. That is an expense that we do not have now. The

next item, $12,000, in the first column to the left, and $6,000 in the other column are the registrar's fees for transfers. I
obtained the individual charges per transfer from the
3100 schedule of charges set by the Corporate Fiduciary
Association. The next item, $88,000 and $44,000 is transfer agent's fees. I developed those figures in our office and I used also in that connection the schedule set by the Corporate Fiduciary Association. These are just the compilation of the individual amounts that the Corporate Fiduciary Association sets forth as their schedule of rates for doing this kind of work for large corporations.

The first figure on the second page, "Cost of Stock Certificates, 15 cents per certificate", I based on the present cost to us of the stock certificates, taking a discount for using a greater quantity.

The next item, Dividend Payment, of $40,000 and $20,000
I developed from our experience. That is our own
3101 experience in doing similar kinds of work. For annual
notices and proxies I used the cost of the forms, the envelopes, postage, and so forth. That is merely adding together a number of small items of cost with which I am familiar.

For the last item, Annual Reports, I used our past experience on annual reports, and took a liberal discount for a much larger quantity of them.

The total figure there is $169,500, in the column to the left, and $89,750 in the column to the right. I deduct from that $3,000, which is the present cost to us of doing work of that kind with the very few stockholders that we now have. The difference is my estimation of the additional cost which we
would have to incur if we had to do this work for our-
3102 selves, and had our own stockholders, instead of having
one big stockholder who splits up the stock among many others, and does this kind of work for me. These figures that I have been talking about are summarized and appear on my first and second exhibits in column 3. The figures in column 3 come entirely from the figures shown on this third exhibit about which I have just been talking.

The figures in column 4 are the cost of handling additional stock issues. I took into account the cost of issuing warrants, registering those warrants, receiving the money, making a record of it, in connection with subscriptions, issuing the stock certificates, and registering the stock certificates, mailing them, and so forth. The items are set forth in detail on the third page of this third exhibit of mine.

3103 In my opinion these figures that I have set forth in my first and second summary exhibits, and the detailed exhibit, No. 3, are all fair and reasonable figures to indicate the additional cost which the Illinois Bell Company would incur if it had the number of stockholders which I have dealt with on these sheets; they are conservative figures. In my opinion these additional amounts set forth here are fair annual charges to consider as additional costs which the Illinois Bell would incur in such situation.

Cross-Examination by Mr. Goldstein.

These exhibits are predicated upon the investor in the Illinois Bell having only 15 shares in one case and in the other case having 30 shares apiece.

"Q. Yes. Now the American Telephone and Telegraph Company in 1923 had approximately $70,000,000 invested in the Illinois Bell; if the American Telephone and Telegraph Company only had 15 shares of the Illinois Bell, on an
3104 investment of $68,000,000—or—$68,000,000—that would be 680,000 shares. How many companies would the American Telephone and Telegraph Company have had to be an investor in to have that sort of an investment? It would be about 40,000 companies, would it not? Is that right?

"A. Roughly, yes."

I have never figured how much the cost to the American Telephone and Telegraph Company would have been if instead of having one company in which it had an investment of $68,000,000, it had that investment spread over 40,000 companies.

I assume that the American Telephone and Telegraph Company having an investment equivalent to its investment in the Illinois Bell, but spread over 40,000 companies,
3105 would have had to have more bookkeeping to keep track of that investment than it has to take care of its investment in one company. I assume it would have had to have more supervision over those companies. I would assume that, in order to take care of an investment in 40,000 companies, it would have to have a large number of stock certificates.

"Q. All right. It would have to have a large number of stock certificates to take care of. What else would it have to take care of—what else would it have to have?

"A. Why, I have not gone into that subject, Mr. Goldstein."

It probably would be fair to assume they would have
3106 to have additional employees in order to take care of the investment. It would have other items of expense also such as supervision over those companies.

"Q. And its risk in these various companies would be much greater than it would be if it was concentrated in one company over which it had control, and could control its management, would it not?

"A. You are taking me away—

"Mr. Blackman: I think, sir,—

"A. —quite a ways.

"Mr. Blackman: This witness has testified to nothing about the American Telephone and Telegraph Company.

"Mr. Goldstein: But then—no, but this witness has testified as to the benefits to the Illinois Bell, as an investor, and I am trying to get the other side of the picture from him as to what benefit it was to the investor, under those circumstances, to have this situation. He has made an assumption here that is a pure speculation.

"Now I just want to test him as to how far his speculation goes; he has made an assumption, and I am trying to get the consequences of the assumption.

"Judge Wilkerson: Can you answer that?

"The Witness: No, sir, I cannot.

3107 "Mr. Goldstein: If the American Telephone and Telegraph Company were an investor in 40,000 companies, would it require the attendance in each of those companies at meetings, or supervision of those companies in one form or another?

"A. I do not believe that is a question I can answer.

"Mr. Goldstein: All right."

I have not gone into the question as to what benefit the Illinois Bell was to the American Telephone and Telegraph Company by having all of the investment of the American Telephone and Telegraph Company in one company, instead of having it scattered into 40,000 or 50,000 companies.

3108 W. K. KRUSE, recalled as a witness on behalf of the plaintiff, having been previously duly sworn, further testified as follows:

Direct Examination (Continued) by Mr. Thompson.

May 24, 1932.

I am the same Mr. Kruse who has testified before in this case. The Illinois Bell Telephone Company made additions to its plant account in the year 1923. All of those additions for the year 1923 were not made as a result of purchases from the Western Electric Company. The additions which were not purchased from the Western Electric Company con-

3109 sisted of materials and supplies purchased from other than the Western Electric Company; that is, contract work performed by other than the Western Electric Company; the purchase of real estate, various overheads, such as engineering, plant supervision, tool expense, general expense charged to construction, and labor performed by the Telephone Company on construction work. Those additions to plant which did not consist of purchases from the Western

Electric Company in the year 1923 were substantial in amount; I would say they would run into millions of dollars. What I have said with respect to the year 1923 is also true for the other years involved in this period, 1924 to 1931.

I have prepared five new separation exhibits which have been identified as Plaintiff's Exhibits A-183, A-184, A-185, A-186 and A-187 for identification, all related to the
3110 year 1930. These five exhibits are identical with the 1930 statement in each of the following exhibits which have already been introduced in evidence; A-49, A-50, A-53, A-54, and A-55, with a single exception. That exception is that I have changed the item of taxes shown on the exhibits which I have referred to, to agree with the actual tax payments made for 1930. The actual taxes were $149,331 less than the estimate used in the previous exhibits and that resulted, of course, in a corresponding increase in the balance available for return. At the time of my former testimony I had not received all of the tax bills for the Illinois Bell Telephone Company in its Chicago area for 1930. I think I mentioned at that time that they were just coming in, and they were all received shortly after the time I had been on the witness stand. These five exhibits show the actual amount paid for taxes by the Illinois Bell in its Chicago area for the year 1930.

3111 I have also prepared five other exhibits which have been identified as Plaintiff's Exhibits A-188, A-189, A-190, A-191 and A-192 for identification. Those are for the year 1931. They are identical with the 1931 statement in each of the following exhibits: A-49, A-50, A-53, A-54 and A-55, with the exception of the item of taxes. The principal change in the tax item was in connection with the South Town capital stock tax. In the year 1931, we accrued on the records an amount of $904,911 for this particular item. I recently determined, however, that the assessment with respect to this particular item was made final some time ago. The tax rate, however, is not yet determined, so I have taken the tax rate for 1930, and applied it to the established assessed valuation.

which resulted in a figure of $404,400, which I have used
3112 in preparing these exhibits, in place of the previous
figure of $904,911. There were certain other minor adjustments in the other tax items, but the total reduction was $517,553 in the tax item. That resulted in increasing the balance available for return for the year 1931 by the same amount. The accrual on the Company's books for this tax for the year 1931, was made in an amount substantially larger than our present estimate of the Company's tax liability because there had been a considerable difference of opinion between the Company and the tax officials with regard to this tax. In 1928 the Company paid $797,992.50, and in 1929 it paid $738,000. The Company determined to litigate this item for 1930 unless it could secure a satisfactory reduction, and it was not until the early part of 1931 that an assessment was finally agreed upon. In the meantime, the accruals for 1930 which were on the higher basis in view of this situation were continued, and carried on through 1931.

The loss of stations which the Company has sustained
3113 in its Chicago area in January, 1932, was 6,579; in
February, 7,295; in March, 6,949; in April, 8,680; and for the first 19 days of May, 11,725. At the present time there are more stations being lost per day than were lost per day during the year 1931, and in the early months of 1932.

There has been a decrease in the calling rate for the first four months of 1932, as compared with the first four months of 1931. The calling rate for January, 1931, was 4.21; January, 1932, it was 4.02; February, 1931, 4.09; February, 1932, 3.98; March, 1931, 4.27; March, 1932, 3.99; April, 1931, 4.20; April, 1932, 4.07. That is the number of calls per day per station.

The net telephone revenues of the Illinois Bell Telephone
Company in its Chicago area for the first four months
3114 of the year 1932, adjusted for taxes, were $2,968,814.

The net telephone earnings for the first four months of 1931, adjusted for taxes, were $3,751,840, which is $783,026 more than the net telephone earnings for the first four months of 1932. Or stated another way, our net telephone earnings

for the first four months of 1932 were $783,026 less than our net telephone earnings for the first four months of 1931.

The net telephone revenues which I have given for the first four months of 1931, and for the first four months of 1932, excludes non-operating revenues.

(Cross-examination reserved.)

3115 R. H. GREGORY, recalled as a witness on behalf of the plaintiff, having been previously duly sworn, further testified as follows:

Direct Examination by Mr. Thompson.

May 24, 1932.

I am the same Mr. Gregory who has testified before in this cause. It has always been the practice of the Western Electric Company to give preferment to those employees who have been laid off, when business conditions of the company call for additions to their forces.

The exhibit which has been identified as Plaintiff's Exhibit A-193 entitled "Western Electric Company Pension Fund, Comparison of Charges to Operating Costs, with Required Contributions" was prepared under my supervision and
3116 direction. This exhibit shows for each of the years, and for the total of the period 1916 to 1931, in the first column, the charges to operating costs for pension accruals. In the second column it shows the amounts year by year, and in total, of the required contributions as computed by Dr. Hunter, as shown in Exhibits A-147 and A-148, column C. In the last column it shows the excess of the required contributions, over charges to operating costs year by year, and in total; and at the bottom of the exhibit is shown the amount of each of the figures, or the columns, under each of the headings of the columns, for the years 1923 to 1931, inclusive. The amounts shown in column 2 of this exhibit under the total charges to operating costs are the amounts which were

included in my Exhibits A 77, 78, 79 and 80, on account of pension fund accruals.

The Western Electric Company in the period 1926 to 1931 charged to operating expenses a lesser amount by $742,000 than the contributions which it should have made as shown by Dr. Hunter's testimony.

3117 The actual fund of the Western Electric Company for service pensions, as of December 31, 1931, was $34,990,000. The reserve which would have been required in accordance with Dr. Hunter's Exhibit A 147 was $59,027,000.

In the year 1925, the Western Electric Company made a charge to expenses in our non Bell business of $1,400,000 on account of pension accruals for the employees of the Supply Department of the Western Electric Company. This item entered into the expenses included in Exhibit A 78 and 80, showing the earnings on non Bell business. No part of this sum of $1,400,000 has ever been included in any of my exhibits dealing with the Bell business, or has that amount been charged in whole or in part to expenses incurred in connection with Bell business.

There are certain changes and corrections which I desire to make in the transcript of my testimony on cross-
3118 examination. I have prepared a list of those changes and corrections in exhibit form.

(It was agreed that these corrections be made, in accordance with this sheet subject to defendants' right to question witness.)

Since I was last on the witness stand, figures have become available which show the earnings of the Western Electric Company on its Bell business expressed in percentage of sales and in percentage of average investment for the
3119 first three months of 1932. Those figures show that during the first three months of 1932, there has been a loss of $1,600,000, which is 4.2 per cent on the sales, and 2.4 per cent on the investment. I am speaking of the Bell business. By extending this three months' experience for the full twelve months this would show a loss of $6,400,000 for 1932 on the Bell business. In my opinion the figures

for the first quarter projected as indicated are not fairly representative of the loss which we may expect on the Bell business of the Western Electric Company for the year 1932; in my opinion that is the minimum loss that we may reasonably expect for 1932. It may be very much greater.

The instrument identified as Plaintiff's Exhibit A-194 was prepared under my direction and supervision. It shows
3120 the earnings of the Western Electric Company on Bell business, expressed in percentages of sales, and in percentage of (a) average investment, and (b) average investment less amount of depreciation reserve account, 1916 to 1932, inclusive, and for each of the years; and also it shows for the period 1923 to 1931, inclusive, and 1923 to 1932, inclusive. The Western Electric Company made in its Bell business for the period 1923 to 1931, 7.9 per cent on average investment in plant. On the same basis, the Western Electric Company's earnings on its Bell business for the period 1923 to 1932, will be 5.8 per cent.

The Western Electric Company made in its Bell business during the period 1923 to 1931, 9.4 per cent on average investment less the depreciation reserve account. On the same basis its earnings will be, on its Bell business, 7.9 per cent for the period 1923 to 1932.

3121 (Plaintiff offered Exhibits A-180 to A-194, inclusive, in evidence. Objections reserved until after cross-examination.)

3122 *Cross-Examination by Mr. Goldstein.*

May 25, 1932.

3123 Among the corrections to my testimony was the following: "And that would not necessarily be the spot labor rate paid at that particular moment?" The answer should be: "The standard labor costs have as their basis the piece rate currently effective on the operation for which the standard cost is being computed."

The standard labor cost that is included in the total standard cost is the piece work rate that is in effect currently at the particular time. Of course, those piece work rates may be changed from time to time, and it would not necessarily follow that the standard costs would be changed, at that 3124 time. But the attempt is at the time that the standard rates are made, that we get as near as possible to the current cost of the labor, and the current cost of the loading, and the actual cost of the article, except for the item of material, and over a long period of time the material item is the actual cost. Let us assume that on January 1st, the current rate of piece work is X cents and the standard cost for that item is based upon X cents for the labor; now, the standard cost of that item would include that X labor until the next standard cost study is made. Between the time when the first standard cost study is made and the second standard cost study is made, there may be changes in the current piece rate from X to Y. So that our standard cost for a particular item does not necessarily change each 3125 time that we have a change in the current piece rate.

The standard cost study at the time it is made and the standard cost rate for labor is the piece rate at that time. That continues until we make a new study and at that time again we apply the then current piece rate. But you want to bear in mind that piece work rates in a large manufacturing company are not changed very often. You can realize the reason why they should not be changed. You can change a piece work rate upwards without getting into trouble with your employees. But a piece work rate downward, however, is difficult. The current piece rate to which I referred in this answer is the current piece rate at the time when 3126 the study is made. But I want to make clear that there are not very many changes in those piece work rates.

Exhibit A-194 is the first exhibit of all of the exhibits that I have offered which shows the deduction of the depreciation reserve account on the Bell business. I made an allocation of the depreciation reserve between the Bell and the non-Bell business in order to arrive at the average investment less

amount of depreciation reserve account in column F. The basis of the allocation, in a general way, for each of the
3127 years was the same. That is the principle was the same in general. The method followed of allocating this depreciation reserve is the same as allocating the gross value of the plant. We first allocate those items which can be allocated directly, such as Installation, and Distributing House Plant Investment, which is practically all against the Bell business. We then take the investment, or the reserve, in either case, which is applicable to Telephone Apparatus, Cable and Supplies, and we divide that between the Bell and non-Bell on the basis of standard shop cost of sales.

The deduction in column F includes not only the depreciation reserve resulting from the accumulation of the normal depreciation expense but also the accumulations resulting from what we have designated before as the extraordinary depreciation.

I have this information for non-Bell business (Similar to Exhibit A-194) but I do not have it in exhibit form because there are certain pencil changes that I have made.

We do not make a detailed allocation of each of the adjustments in arriving at your estimated profits for the first three
months of 1932. To do that would necessarily mean
3129 that we would have to take an inventory, and of course we take an inventory but once a year and consequently we do not have that information at this time. What I did was to arrive at the basic gross profit, and then with my adjustments for Telephone Apparatus, Lead Covered Cable and Supplies, and then I made my adjustments and then when I arrived at the operating profit, I divided the operating profit on Telephone Apparatus, on Lead Covered Cable, and on Supplies between the Bell and non-Bell according to the sales made; not the cost of sales. In that respect it differs from the previous years. Included in my adjustments for the first three months there was a deduction for inven-
3130 tory of about $1,500,000, that is a reduction to fair value.

When I arrive in my calculations at $1,600,000 as the loss on the first three months in the Bell business, and $125,000

for the loss for the first three months on non-Bell business, I multiply the $1,600,000 by four, to arrive at the estimated loss for the full year. That multiplication would not assume that within the next nine months we would have a shrink in inventory to fair market value below that which you had on hand on March 31st, below the fair value of March 31st, or three times $1,500,000, or $4,500,000. The answer to that is this, that the outlook for the year 1932 is so much blacker than the outlook that you would get by multiplying the first three months by four, that even if you had only the same amount, or a slightly excess amount of this $1,500,000 reduction to fair market value, I still, to the best of my knowl-
3131 edge, and as the result of my experience in making these estimates over a great many years would say the loss that we will get will be at least $6,400,000 for the year. I do not multiply by four the losses for the first three months because the same factors of loss in the first three months would continue for nine months, but gauged by the loss of the first three months, I determine the last nine months.

I made a forecast about June, 1931, of how much our profits would be in 1931 and 1932. That estimate was unusually good. In June, 1931, I estimated that the profits on Bell business would be $10,500,000. At the end of the year they were $10,500,000. I do not recall the exact figure, but I estimated on June 10, 1931, that the sales from which this
3132 $10,500,000 would come, would be approximately $256,000,000. At the end of the year we had $219,000,000 of sales, and we still had $10,500,000 of profits. So that an estimate on June 10th of $256,000,000 of sales, and $10,500,000 of profit, at the end of the year resulted in $10,500,000 of profit on $37,000,000 less of sales.

I made an estimate on January 1, 1932, as to what our profits would be for 1932. Each year in our budget we estimate what our profits will be.

In connection with our standard costs each year we assume an estimated volume for the year. We assume an estimated volume for Bell and non-Bell business.

3133 At the end of three months here I made the adjustments to our profits on the basis of the information we had for the first three months. Those adjustments were based on the best information we had, all of the information we had from all sources throughout the country: distributing houses, manufacturing department, merchandise department and as the result of our experience.

The adjustments as related to standard costs would necessarily result from the fact that our actual experience
3134 was off from our estimate.

One of the estimates that we made on January 1, 1932, in arriving at our standard cost for Bell and non-Bell would be the estimated volume for each.

"Q. Well, you take an estimate of $50,000,000 for the first three months on Bell business, and an estimate of $20,000,000 on non-Bell business.

"A. That is right.

"Q. And you figure your profits are going to be on a certain basis, a certain amount. Now at the end of the three months you find that your non-Bell business, instead of
3135 being $20,000,000, is $1,000,000—or $5,000,000, we will say, that is 25 per cent; and your Bell business, instead of being $50,000,000, is $40,000,000—in other words, your Bell business came within 80 per cent of your estimate, and your non-Bell business came within 25 per cent of your estimate.

"On your basis of adjustment with the adjustments on the basis of the Bell business, the $40,000,000, and the non-Bell business of $5,000,000, would not the Bell business absorb the errors due to the greater amount of error in your judgment as to the non-Bell business?

"A. If your illustration was in accordance with the facts, yes, but the situation is exactly the contrary, Mr. Goldstein."

The Bell business is falling off to a larger extent than the non-Bell and our method means that a larger part of the loss is apportioned against the non-Bell, than against the Bell. I am saying, I make this apportionment on basis of sales.

3136 Now I will say, I think that the soundest principle is to make it on the standard cost of sales; but that information is not available. 95 per cent of our business is with the

Bell Companies, and whatever method you use, if there is any error there at all—and I do not think from a common sense viewpoint that there is any error that need be taken into account; but if there is any error, it is utterly negligible.

"Q. But in any event it would be necessary to arrive at a conclusion, to compare the budget each year with the actual experience each year on the Bell and non-Bell business,
3137 and for each class of apparatus taken into account.

"A. It is not necessary to compare it with the budget."

The budget does not have anything to do with our earnings. Our estimate of profits is on the basis of the exact sales for the period. We based our profit for the first three months on the sales for the three months and on the costs for the three months.

Each year we estimate our sales at the beginning of the year and we estimate what profits we expect to get. These estimates are what we call a budget. But that does not have anything to do with our profits for the first three months;
3138 no relation whatsoever. It would have nothing to do with a check on the profits for the year except to find out how we differed from what we estimated at the beginning of the year. But the real facts are there as the result of inventories, and what the result was for the year.

There was no change in the prices on Bell business in 1932; no general change at all. There was no general change in non-Bell. Our standard cost of copper and lead did not change in 1932.

We calculated the return on investment on telephone instruments in 1927 at the request of counsel for the city.
3141 There is no uniform policy with relation to the guarantee of non-Bell customers against patent infringements. If a customer asks for the guarantee, why, we give it. If it is included in the contract form which they ask us to sign, we give it without any question, but there is no uniform policy.

I am not familiar with the form of contract handed me
3142 by counsel for the city. When we do give the guarantee there is no additional consideration.

Re-direct Examination by Mr. Thompson.

3143 The amount of Bell sales included in Exhibit A-194 for the year 1932 is $151,472,000. That would be the first quarter projected for the year. Our present estimate of what those Bell sales will be for the year 1932 is $121,500,000.

U. F. CLEVELAND, recalled as a witness on behalf of the plaintiff, having been previously duly sworn, further testified as follows:

Direct Examination by Mr. Thompson.

May 25, 1932.

I am the same U. F. Cleveland who has testified pre-
3144 viously in this case. I am a Vice President of the Illinois Bell Telephone Company and as such Vice President I am in charge of its Accounting and Financial Department.

The American Telephone and Telegraph Company has an Employees' Stock Plan which is made available to employees of the Illinois Bell Telephone Company. The pamphlet which has been identified as Exhibit A-195 is a copy of the Stock Plan to which I have just referred. That plan was adopted by the American Company on May 1, 1921. The Illinois Bell Telephone Company took advantage of the provisions of this plan soon after it was adopted.

This plan is one which permits the employees of the American Company and its subsidiary companies to subscribe for stock of the American Company upon certain conditions, and make these payments in installments over a period. There is no attempt to influence the employees to purchase stock; it simply is a privilege which is given them. The condi-
3145 tions are that the employee must have at least six months continued service before he can subscribe under

the plan. The price at the present time is $150; it has increased gradually during the period since its adoption. It has ranged from $100 to $150 per share. The subscriptions are payable either by deductions from the pay of the employees, or by application of the dividends on stock which the employee owns. The installment payments are subject to an interest credit of 6 per cent per annum compounded quarterly. There is a limit to the number of shares which an employee may subscribe for. He may subscribe for one share for each $300 or fraction of his annual pay upon which the installment deductions are $3 per month; or one share for each $400 of his pay, on which the deductions are $4 per month. At the present time there is no possibility of paying cash for
3146 these shares; they must be covered over an installment period. There is also a limitation on the number of shares which may be subscribed for in any consecutive twelve months' period, of 50. At the $150 rate, with the $3 deductions, it takes a matter of 45 months for the employee to pay for his stock and with the $4 deduction, about 35 months.

The employee has a right to cancel his stock subscription at any time before its maturity in which event he is returned the entire amount of his salary deductions, with interest compounded quarterly at a rate 1 per cent less than that which is granted him if he goes through to maturity. That would be 5 per cent, at the present time, as against six which he receives credit for as he completes the purchase.

3147 When the market price began to descend to the price at which maturing subscriptions had been made the Company called to the attention of each employee who had a maturing subscription the possibility of his acquiring that stock through other channels and canceling his subscription agreement, using the proceeds to make that acquisition. That was done through the lines of organization. Each employee individually who was involved was interviewed, and the facts called to his attention. There was not any effort made to influence him as to what he should do, and some of them, in spite of the fact that they were shown that it was to their immediate financial advantage to make the change, insisted on going through with their contract, and acquired the stock.

The circular identified as Exhibit A-196 is the one
3148 which was sent out by the Illinois Bell Telephone Company to all of its employees who are at present making payments under the plan. It is for their information.

There has been cost incurred by the Illinois Bell Telephone Company in connection with the administration of this Employees' Stock Plan. I do not have with me the figures showing the exact amount of that. The nature of the cost which has been incurred by the Illinois Bell Telephone Company in the administration of this Employees' Stock Plan is the cost of keeping the records of the subscriptions which are made, making the collections periodically, and remitting the amounts to the American Company; also of course the
3149 cost of making the refunds in the cases where subscriptions are withdrawn. Aside from these costs that I have just referred to, there are no other costs which the Illinois Bell Telephone Company incurs in the administration of the plan. We have the actual cost of certain of those transactions. With the rest of them, it is necessary to make some sort of apportionment, but my best judgment is that they never run over $45,000—around $45,000. These costs have been included in the expenses of the Illinois Bell Telephone Company as they are shown in the exhibits in this case.

In my opinion such reasonable costs as are incurred in connection with the Employees' Stock Plan are proper
3150 items of expense. This encourages thrift habits on the part of the employees. It gives them the opportunity to become interested financially in the business in which they are employed; it generally makes them better citizens, as far as we are concerned.

In my opinion it has an effect upon the Illinois Bell Telephone Company that justifies it in meeting these expenses.

Around 118,000 shares of stock have been delivered to the Illinois Bell Telephone Company employees under this plan during the years 1923 to 1931. At the end of 1931 there
3151 were 73.5 per cent of the employees of the Illinois Bell Telephone Company who are eligible to subscribe under the plan who were actually subscribing. That is lower than

it has been for some time; at one time it was as high as 90 per cent.

I referred just a moment ago to the right of the employee to cancel his subscription and to receive back the amounts which had been deducted from his pay or which had been credited on account of dividends on stock purchased by him under the plan. During the period 1923 to 1931 we have refunded to employees approximately $7,000,000, of which about $200,000 represented interest. For the first four months of this year refunds have been approximately $3,000,000, of which about $170,000 represents interest. The amounts which I have referred to as having been refunded, principal and interest in the first four months of 1932
3152 are in addition to the figures which I gave for the prior years. The rate of refunder has been much greater during 1932 than it had ever been previously. That is probably because of the difference between the market price of American Telephone and Telegraph Company's stock and the price at which the employee has subscribed for it.

There is also a plan for the sale of stock of the American Telephone and Telegraph Company through the Bell Securities Company. The circular which has been identified as Exhibit A-197 describes in a general way what this plan is. This stock is purchased by the Bell Telephone Securities Company on the open market, and resold either to the public, or the Illinois Bell Telephone Company employees, if they desire to purchase under this plan; it is sold to anyone
3153 who desires to purchase it. Recently a good many employees of the Illinois Bell Telephone Company have purchased under the Bell Securities Plan. They have used the accumulated installments which were refunded under the Employees' Plan to acquire stock at the market price through the Bell Securities Company Plan. In connection with the administration of the Bell Securities Stock Plan we accept the subscriptions for stock from the general public, making collections for either shares or installments, and remit those amounts to the Bell Securities Company. The amount of those costs are not more than half the cost of operating the

Employees' Stock Plan. Those costs have been included in the operating expenses of the Illinois Bell Telephone Company as shown in the exhibits in this case, to the extent
3154 that we have not been reimbursed by the Securities Company for those costs. They are included in the exhibits. We get some reimbursement from the Securities Company, but are not reimbursed for our entire expense.

So far as those sales are made within our territory, (and that is where practically all of them are made) I think there is a very decided advantage to the Illinois Bell Telephone Company in the sale of stock of the American Telephone and Telegraph Company through this Bell Securities Stock Plan. The advantage that I have in mind is the advantage which obtains by having our customers interested in the business which is serving them; it makes for better public relations.

At the time the American Company is putting out new issues of stock, there are a good many transactions in
3155 the rights prior to the filing of subscriptions with those rights, and our Company handles those transactions for the public within its territory, and also the subscriptions under the rights.

We have maintained an office for the exclusive use of the accountants and engineers of the Illinois Commerce Commission since November 21, 1921, since which date they have been constantly examining our books and records, and have had access to whatever they desired to inspect and examine of our accounting records.

I am familiar with the loss of stations in the Chicago
3156 area of the Plaintiff Company in the year 1931, and for the first four months of 1932, and the first nineteen days of May, as testified to yesterday by Mr. Kruse; also with the decreased calling rate in the first four months of 1932, as compared with the first four months of 1931. It is rather difficult in these days to make any very definite prophecy. We figure that we will lose as many as 75,000 stations during the year. That represents my best judgment at the present time of what the loss will be.

There was a decrease in the net telephone earnings of the

Chicago area of the Illinois Bell Telephone Company for the first four months of 1932 as compared with the first months of 1931. That decrease was about $783,000. If this decrease
3157 in net telephone earnings were extended for the year, it would give a figure of something in excess of $2,300,000 in 1932 over 1931, of net telephone earnings. In my opinion such decrease of net telephone earnings for the year 1932 over 1931 is fairly representative of what will occur. It looks as if we were going to lose at least $2,000,000 over 1931.

We have records which show the extent of loss or decrease for the first four months of 1932, as between exchange revenues and toll revenues. For the gross exchange revenues the rate of decrease is 7.2 per cent, and for the gross toll revenues it is 8.2 over the corresponding period of last year.
3158 The rate of decrease in gross exchange revenues at the present time is increasing at a greater rate than the rate of decrease in toll revenues, so it would seem that the greater margin of the loss for the year 1932 would apply to the exchange business—that means the intrastate business, rather than to the interstate, although there will be some loss in the interstate as well. In my opinion the de-
3159 crease of approximately $2,000,000 in net telephone earnings for 1932 over 1931, will be proportionately larger in our intrastate business than in our interstate business.

In my judgment the loss of revenues which the Company would sustain in the year 1932 should it put the rates in suit into effect is that it would represent a decrease of about $1,270,000. That was computed from the first four months of 1932 provision which we currently make for possible refunds to subscribers involved in this case, by assuming the same relation between those figures and the figures for the year which existed in 1931, and also the same relation between the amount of our provision for possible refund, and the amount estimated as shown in the exhibit for 1931, as being our loss if the rates had been put into effect. The testimony in this case discloses on behalf of the Company what the loss in
3160 revenue would have been in the year 1931 if the rates in suit had been put into effect.

That figure I think is approximately $1,450,000 for the total Chicago area. We had certain provisions made for refund during the year 1931 which was made on the basis of what subscribers we actually had. So I found the ratio between the provision for refunder and the reduction which would have occurred from putting the rates in suit into effect for 1931, and applied that same ratio to the provision for refunder which we are going to make for the year 1932. It is in that way that I arrive at the figure of $1,270,000.

3161 *Cross-Examination by Mr. Goldstein.*

When I said that the purchase of stock by the employees made them "better citizens" I said with respect with their relation to the business. I did not mean generally. I would not think that the same reasoning would apply if for instance the employees should ask the Illinois Bell Telephone Company or the United States Steel Corporation to work a similar plan on stock of the United States Steel Corporation, or Halsey, Stuart Company, or J. P. Morgan and Company,
should ask the Illinois Bell Telephone Company to have
3162 employees purchase stock offered by these companies.
The American Telephone and Telegraph Company stock represents to a degree ownership in the business of the Illinois Bell Telephone Company, the business in which these employees are engaged. That makes it more definite, and interesting to the employees. I do not think the same reasoning would apply to the purchase of the stock of the International Telephone and Telegraph Company, or the Associated
Telephone Companies. I did not say it was because the
3163 stock was of the telephone industry. When the employees buy stock of the American Telephone and Telegraph Company on the installment plan, it is my thought
that the employees buy an interest in their own business.
3166 I do not recollect that I made any statement that we
did not cover all of the costs of our Company in connection with the employees' stock plan in its expense accounts.

If I did, I want to change it. All of the costs which are incurred by this Company in its administration of the Employees' Stock Plan, appear in its accounts, and will appear in the statement of Mr. Kruse. The American Telephone and Telegraph Company does not reimburse the Illinois Bell Telephone Company for those costs; they appear in our expense accounts, and rest there finally.

I did not give any consideration whatever to benefits to the American Telephone and Telegraph Company as a
3167 result of having its stock sold to the employees of the Illinois Bell Telephone Company on the installment plan.

I do not know what percentage of the employees of the Illinois Bell Telephone Company own stock of the American Telephone and Telegraph Company. My impression would be that a large proportion of them are stockholders.

3168 I have been in charge of the accounting of the Illinois Bell Telephone Company for a great many years. As such I am familiar with the method in which the costs of operations both in the long distance service and in the exchange service are allocated as between the two on our books. The allocations of joint costs which are incurred in the exchange and in the long distance service, are the result of judgment by the employees as to what proportion should go to one or to the other.

3170 The reason why the Illinois Bell Telephone Company receives an advantage in having the stock of the American Telephone and Telegraph Company sold to persons outside the employees, through the employees of the Illinois Bell Telephone Company is: there is certainly an advantage to the telephone business in having the subscribers of the business know something about the operation of the business, and have a participation in its ownership. The fact is evidenced constantly by the interest which a small stock ownership in the business brings out with respect to the ordinary subscriber. That is the ownership in the telephone business in which they are directly interested, as a subscriber.

They subscribe to the services of the Illinois Bell Tele-
3171 phone Company. They know with respect to the owner-
ship of this Company that the largest stockholder is the American Telephone and Telegraph Company, and that when they buy stock of that company they are interesting themselves in the ownership through that stock of the telephone company with which they are connected as a subscriber,
3172 that is, the Illinois Bell Telephone Company. The Illinois Bell Telephone Company has paid its 8 per cent dividend for the first quarter. We paid it out of available funds. We did not quite earn our dividend the first quarter. I do not have the figures in mind by which we fell short. We had a sufficient amount of surplus however so that it was thoroughly covered.

3174 I spoke of the estimated reduction in net income if the rates in suit were put into effect as twelve hundred and seventy thousand dollars meaning $1,270,000. The effect of my calculations for 1932 was to take into account the same factors as affecting the net amount of reductions due to the reduction in rates as was done for the year 1931. I say I think that the effect of that calculation is the same
3175 basis as 1931. I am not familiar with the basis of the calculations giving the estimated effect on the business of the putting into effect of these rates, but I assumed that there would be very little difference between the conditions of 1931 and those of 1932. The situation between 1931 and 1930 did not enter my calculation at all. If there had been a distinct change in the calculation which was testified to by the president as between 1930 and 1931, that did not enter into the situation as far as my calculation was concerned.

3176 I have seen publications that indicated that every company of the Bell System has the stock plan in effect and that a substantial proportion, more than half, have the Bell Securities Plan in operation.'

In my direct examination as to the Bell Securities Plan, that is covered by A-197, I gave no consideration to benefits to the American Telephone and Telegraph Company resulting from this plan.

3177 CHARLES A. HEISS, recalled as a witness on behalf of the plaintiff, having been previously duly sworn, further testified as follows:

Direct Examination By Mr. Blackman.

May 25, 1932.

The paper marked for identification Plaintiff's Exhibit A-198 was prepared under my direction and supervision. The figures in line A of this exhibit are taken from the books of the American Telephone and Telegraph Company. They are taken directly from the books of the Company at December 31st.

They show the amounts that the American Telephone and Telegraph Company collected under its license and con-
3178 tract arrangements from the associated companies, and the Bell Telephone Company of Canada. The figures appearing in line B were taken from Exhibit A-170, and reduced by the allocations to the Long Lines Department as shown on exhibits which I have introduced during the past few weeks. That is, my starting point is Exhibit A-170. A-170 included amounts which I had allocated to the Long Lines, in other exhibits and I have gone through these other exhibits and taken out the allocations to the Long Lines in each case. Line C is merely the remainder after subtracting line B from line A. These figures that are blotted in red indicate losses.

3179 The figures opposite D (1) were taken from Exhibits A-178 and A-177, and modified or reduced to eliminate the amount allocable to Long Lines on the same basis that similar expenses of the Personnel Department were allocated, in the exhibit introduced with respect to the expenses of the Personnel Department. The figures shown against subdivision 2 of Item D were prepared by me on the same basis as Exhibit A-163. The figures here shown against Item 2 are the figures for all of the associate companies, whereas

the figures on A-163 were the figures for the Chicago area but the figures here are comparable and built up on the same theory, and the same basis that I used and explained in connection with the Chicago area with Exhibit A-163. Line E is merely the remainder after deducting the sum of the
3180 two items under Item D, from Item C.

Below Item E, there are some additional items. At the top of the page there appears this statement, "Also additional items which should be considered on the assumption that American Telephone and Telegraph Company is a contracting party entitled to make a fair contract with associated companies and a fair profit therefrom." Now, the figures in lines A and E represent the revenues and the basic costs, costs and deductions which should be set off against them. Now, then, below I have set forth additional items which should be considered in connection with the amount appearing on line E. That is before assuming that line E is profit, or that there has been an excessive amount collected by the American Company from the associate companies in respect of these license contract services, there are certain additional items that must very definitely be taken into consideration in determining whether the balance there shown is a profit or balance.

With regard to that line E, that shows a loss of $28,000,000 as the sum total of the results for the nine years in
3181 question: it shows a small positive balance for four years and a loss for five years and the net is $28,193,600 in the red.

The consideration of these additional items is to reduce the black figures and to increase the red figures.

The first item (a) is the liability of American Company to associated companies under guarantee to protect and save harmless these companies from all actions and suits charging infringement of patents, as provided in Section 2 of our license contract. Now, during the period 1923 to 1931 inclusive the American Company actually transferred from its surplus to a Reserve for Contingencies, the amounts here shown against this item aggregating $30,395,800. In other

words, the American Company during the period 1923 to 1927 actually put in a contingency reserve $30,389,800. Now, before that time, four or five years before that time I think, the American Company had set aside similarly large amounts,

I think beginning with 1919 regularly each year through
3182 to 1927 it had set aside provisions in its Contingencies
Reserve. Now, briefly the reason for doing it was that during the war there was a great incentive to stimulate or to develop the communication art and the use of electricity in communication. The war demanded it and the research bureaus in this country were seeking everywhere to find ways in which the electrical communication could be expanded. Our own people, along with other research laboratories, many other research laboratories in the country, developed the art.

At the end of the war there were a great many ideas and there was considerable advancement; we had during the war for the first time been able to talk from Arlington to Eiffel Tower in France. There were a great many ideas that were in process of development and our own people felt then that the time had come when there was a rather serious situation in the patent field relating to the application of electricity to communication, and that there were a great many questions to be unraveled and rights of different parties to be decided; and they felt that while they had previously set

up a Reserve for Contingencies, the time had then come
3183 when they must seriously face this situation; and in
the judgment of our management, it was a wise policy to establish definitely a Reserve for Contingencies primarily against this infringement liability. From my own knowledge of what transpired I know that a controlling factor in the establishment of this Contingencies Reserve was this particular situation that I have just outlined, and its related possibilities of incurring infringement liability, liability for infringement of patents.

During the extreme period covered by my exhibit, there were serious patent suits brought against the Company. There is one pending now—in fact there are two suits I think pending the courts in Michigan. They are test suits, but the

claimants claim damages running almost into the amount of the value of the telephone property; and this situation is continually in the picture, where you have, as we have, 11,000 patents or patent licenses used in one or the other phase of our business.

3184 During the years covered by this period our provision to the Reserve for Contingencies was as follows: 1923, $3,000,000; 1924, $3,000,000; 1925, $6,000,000; 1926, $4,000,000; 1927, $14,395,800. For purposes of this statement I have taken the $14,395,800 and have spread it in three million dollar amounts during the remaining years of the period, except for the year 1931, where I have included $2,395,800. I know from my own knowledge of this appropriation in 1927 that it was the intention that it should cover for several years the provision which we felt ought to be made for contingencies. That was the balance remaining in the depreciation reserve after the sale of the instruments, that was transferred to surplus, and in the judgment of our management they felt that that balance should be definitely ear-marked against future contingencies arising in the business; that is contingencies of the character which I have just described.

Now, Item (b) is the acquisition for benefit of associated companies of rights under General Electric Company and Radio Corporation of America patents by surrender of 3185 rights in radio field worth upwards of $10,000,000. I believe that that situation is very adequately and sufficiently described in the testimony of Dr. F. B. Jewett, pages 2107 to 2122 inclusive of the transcript.

Item (c) is an allowance sufficient to yield a fair return, plus profit, on the value of all property used in rendering license contract services, including value of the Development and Research, and other General Department Organizations of the Company, less costs already included in Exhibit A-167 and Item D (2) above. That is we did not want any duplication here and so while we believe we are entitled to a fair return plus profit (that is, under this theory, under this assumption on which I am proceeding) on the value of all property; we should exclude such accounts as have already been

included in our costs. I have gone through these figures carefully and eliminated all possible duplications, and whereas in this item I call attention to the fact of an allowance and that there have been items in connection with that taken into
3186 our cost figures I have set forth clearly what these items are and that they should be deducted. Of course I have not cumulated these different amounts: I have however here earmarked the places where the costs appear that should be excluded.

Item (d): Under Item (d) we merely call attention to the fact that in all computations involving the average cost of funds used in the business these average costs give effect to the inclusion with capital funds paid into the business, all of the surplus of the Company, whether appropriated or unappropriated (even Reserve for Contingencies, which I have just discussed, has been included there) on the basis of no capital charge cost to the Company. That is not really a separate item. It is merely calling attention to the conservatism with which my costs were computed, so that that would not be overlooked. And incidentally, it also explains the situation that developed a few days ago here as
3187 regards the difference between my cost computations in Ohio, and here, and the computations made in Michigan. In Michigan I did not give credit for surplus, and that in itself accounts for substantially all of the difference. These differences that were called attention to were confined to the differences in my costs with respect to money and I say it accounts for substantially all; it is not all, but it accounts for the major part. The rest, the remainder, was a current tax adjustment which we made on our books as a matter of current accounting practice as between the General Department and the Long Lines. This method of procedure that I have here indicated reduces materially the percentage rate for cost of funds wherever that rate is used in the business, for determining costs.

(Plaintiff offered in evidence Plaintiff's Exhibit A-198. Objection reserved by defendants until close of cross-examination.)

3188 The paper marked Plaintiff's Exhibit A-199 was prepared at my direction and under my supervision. It purports to show a statement similar to that just discussed but modified to take into consideration a different assumption of the relationship between the American Company and the associate companies. The figures contained in the block of lines beginning with A and ending with E are the same figures as those shown on the preceding exhibit; they 3189 are identical figures, because in the interests of conservatism here I have used these figures under this assumption (although if I had wanted to make refinements I could have reduced these figures to some extent on the assumption under which I am proceeding).

Item (a), under the box, is the same item that appears on my previous exhibit. What I have said applies in the same manner and to the same extent to this item and with equal force.

Item (b) is different. Item (b) calls attention to the fact that in connection with the costs and deductions stated, there should be considered a fair return and amortization charges upon the value of approximately 11,000 patents and patent rights, including patents acquired from the General Elec- 3190 tric and Radio Corporation of America at a cost of over $10,000,000, for the benefit of the associate companies, and other patents acquired by purchase at a cost of over $6,200,000, together with patents taken out by employees, less amounts included in Exhibit A-160 for patents purchased and enumerated at pages 2661-2667 of the minutes in this case. That is during this period there were charged to the Law Department and included in the expenses of the Law Department a number of purchases where the amounts were usually small. I explained that and gave the amount for each year in my testimony in connection with that exhibit and those amounts should be deducted here.

In regard to Item (c), on the assumption under which we are proceeding: This is an allowance equal to the difference between a fair return and the amount computed by using average cost of funds used in business—and those average

costs as I have just explained, were extremely conserva
3191 tive ranging from 6.25 per cent to 6.93 per cent during the period, as shown on Exhibit A-164; on the following items of property of the American Company used in the telephone business of the Bell System:

1. Working capital measured by the averagg amount of funds held available for the use of the business (Exhibit A-169) ranging from $70,000,000 to $300,000,000 per annum throughout the period 1923 to 1931 inclusive. That is a fair return on the working capital less the amounts which I have already included by using the average cost of the funds used in the business, conservatively computed, by adding back surplus.

3192 Item 2, under the caption, is allowance equal to the difference between a fair return and the amount already included in the cost on the physical property of the general department of the American Company used in the business, as shown by Exhibit A-170, ranging from about a million to twelve million dollars per annum throughout the period, 1923 to 1931, inclusive. During that period the headquarters of the American Company were in 195 and 205 Broadway. During the early part of the period, it was the 195 Broadway Corporation that owned the 195 Broadway building, in which the American Company had a 70 per cent interest and the Western Union had a 30 per cent interest. Then the other corner, the 205 Broadway, was owned by the American Company outright. Then later the 205 Broadway Corporation was formed, and later still, the Western Union sold out its interest in the 195 Broadway, to the American Company.

3193 At the end of 1930 (one year of this period) there was just one corporation, the 195 Broadway Corporation, taking in all of the property formerly held by the two corporations. That company had issued stocks and bonds against this property which amounted, I think, in excess of two and a half million dollars at the beginning of the period and now my impression is the stocks went up as high as fifteen million dollars.

The total assets of the corporation now are in the neighborhood of twenty eight million dollars, and I think the debt and the stock is about equally divided; that is just an offhand impression. It may vary a little one way or the other.

I have included nothing in this sub division of Item C for the stock holdings of the American Company in those building companies. I have gone on the assumption that whatever stock we have in those corporations is a permanent investment, and we will take whatever dividend is paid on that stock, which up to now has been limited to 5 per cent, I think, or 6. Respecting the 205 Broadway Company I took into this figure the investment of the American Company in the 205 Broadway Building as long as it owned that outright. But, when it organized the corporation and owned 100 per cent of the stock of that corporation, and continued to occupy the building in the same way, and for the same rent, I ceased to include any allowance for that item of property, in so far as it is covered by stock. For the 195 Corporation (which was always covered by stock) I have included nothing for that building in any year; nothing on our stock investment; no loss on our stock investment, if there were any.

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Item D is the same as Item D on the previous sheet; it is merely for the purpose of completing this statement.

Item E is sub-divided into two parts and the two items are those which we believe should be given consideration in the picture. The first item is cost of temporary financing, the annual amounts included in Exhibit A-170 for the period 1923 to 1931, inclusive, no part of which was allocated to the Chicago area in Exhibit A-170. Now, the amounts included in this exhibit, which is for the American Company as a whole, are as shown for the different years. Now, our reason for including it here is merely to bring attention to the fact that it may be pertinent to give some consideration in respect of a deduction for this item. All the transactions of the Company are viewed on the basis in which I am viewing them here, and all the transactions are based on the assumption which I have here explained. But this same

3195

deduction for temporary financing does not apply under the assumption previously discussed.

As to sub-division 2 of Item E: Similarly we have felt that in making up this summary statement we should call attention to the royalties which the American Company received during the period in question, and we offer the suggestion that if any part of these royalties should be deducted, it should be a reasonable portion only thereof. That not all of the royalties should be deducted. The total of all
3196 the royalties and license fees received by the company annually for the period 1923 to 1931, inclusive, are as stated for the different years, totaling $5,229,141.

(Plaintiff offered in evidence document marked Exhibit A-199, for identification. Received in evidence.)

3197 In sub-division 2 of Item B I have a reference to an exhibit that is left blank. That exhibit is not yet in the record, but it is an exhibit prepared identically in the same manner as Exhibit A-163, and it shows the facts for the Bell System as a whole of the instrument values, less 8 per cent depreciation, expense at 7 per cent, and a fair return of 8 per cent thereon. The factors are absolutely the same as those stated on Exhibit A-163. I explained that in connection with Exhibit A-196. There is no necessity for an exhibit on that subject.

I have developed the same class of figures for the Chicago area as I developed them for the whole Company.
3198 All of the figures shown on the sheet marked Exhibit A-200 were developed in precisely the same way as I have already described in reference to A-198, except that they relate to the Chicago area only instead of to the entire associate companies. Sheet 1 of the Chicago area exhibit is identical to A-198, except that it covers data for the Chicago area.

I prepared the sheet marked for identification Exhibit A-201 for the Chicago area and it was marked "Sheet 2" at the top. This is a companion sheet to Exhibit 199 and is developed on the same assumption. The major factor for the substantial difference in result that is shown on Exhibits

A-198 and A-200 is that Exhibit A-200 includes nothing for cost of temporary financing, while A-198 does. That is, I did not carry out and allocate that to the Chicago area and if you will look at sheet 2, the last exhibit introduced, at the bottom, you will notice that we make no suggestion in
3199 respect of cost of temporary financing. That is because it was not taken in in the first instance so far as the Chicago area was concerned. There is one other difference and that is that this sheet 2 contains a statement that the Chicago area constitutes approximately 6 per cent of the Bell System and allowances made in respect of these items should be allocated accordingly.

"Mr. Blackman: I will offer the sheet A-200 for identification and A-201 for identification, in evidence.

"Mr. Adcock: Subject to the same objection.

3200 "Mr. Thompson: Your Honors, during the testimony of Mr. Gregory and Mr. Cleveland, the plaintiff offered in evidence Exhibits A-193 and A-194, with respect to Mr. Gregory's testimony, and Exhibits A-195, 196 and 197 with respect to Mr. Cleveland's testimony. I would like to re-offer them. The objections were reserved on those until cross-examination. Are you objecting now?

"Mr. Goldstein: Well, the Gregory exhibit, A-194, I take it, is the 1932 profits, and the rest; that is subject to the same objection we made to the other Gregory exhibits that involved profits.

"Judge Wilkerson: Very well.

(Which said documents, so offered and received in evidence, were marked as Plaintiff's Exhibits A-193, A-194, A-195, A-196, A-197, respectively.)

3201 "Mr. Goldstein: Before proceeding with the examination of Mr. Turner, we would like to have the record
3202 show that the defendants move to strike Mr. Turner's testimony, including the exhibits offered, on the ground they are incompetent, irrelevant and immaterial, for the following, among other reasons:

"First: The rate of depreciation has been fixed by the Illinois Commerce Commission pursuant to statute, and no

attempt is made by the plaintiff to show, and no showing in Mr. Turner's testimony appears, that the Illinois Commerce Commission action was arbitrary.

"Second: The plaintiff's bill does not set forth any claim that the Illinois Commerce Commission's action in fixing the rate of depreciation or the expense of depreciation
3203 was arbitrary, and therefore it cannot now attack it as arbitrary.

"Third: The plaintiff sought, on the former hearing, and on appeal to the Supreme Court, to void the Commission's action in fixing the depreciation rate and expense by the claim that the Interstate Commerce Commission had acquired exclusive jurisdiction over that subject matter by act of Congress, that the Interstate Commerce Commission had not yet exercised finally its exclusive jurisdiction, but had ordered the Company, upon its final action, to follow the accounting rules, which left it to the Company to fix the rates based on its own judgment, and, that in the absence of a showing that such judgment was arbitrary, the Company's judgment should stand.

"The Supreme Court found against that position, and the plaintiff cannot now take another position, which it is now taking under the well-known principles.

"Those are our objections.

"Judge Wilkerson: Have you the decision of the Supreme Court? Have you anything to offer in support of the motion except what you have already said?

"Mr. Goldstein: No. It is a statement which corresponds to the position we took in connection with the motion which is now pending, which covers the matter of depreciation, which the Court refused to pass on heretofore. The
3204 third specification of our motion is in addition to those set up in the other motion.

"Judge Wilkerson: Have you anything to say about Mr. Goldstein's motion?

"Mr. Bracelen: I think it is necessary to say no more than this, your Honor: That the opinion of the Supreme Court is perfectly definite to this effect, that the amount of

depreciation expense which is to be allowed in the computations, to determine the issue of confiscation in this case, is to be fixed by this Court.

"Judge Wilkerson: I find this language: 'The experience of the Illinois Company, together with a careful analysis of the results shown, under comparable conditions, by other companies which are part of the Bell System, and thus enjoy the advantage of the continuous and expert supervision of a central technical organization, should afford a sound basis for judgment as to the amount which in fairness both to public and private interest, should be allowed as an annual charge for depreciation.'

"And, 'accordingly, the Court should make appropriate findings with respect to the amount to be allowed in this case as an annual charge for depreciation in connection with intrastate business.'

3205 "Is that the portion?'

"Mr. Bracelen: That is the portion.

"Mr. Goldstein: But the Court did not say in that opinion as to what effect this Court should give to the statute of the State of Illinois. We are under the statute of the Illinois Commerce Commission, in so far as the rate is concerned.

"Judge Wilkerson: You will have to argue that to the Supreme Court, I suppose. Their mandate to us is imperative.

"Your objection is overruled.

"Mr. Goldstein: Exception."

JOHN R. TURNER, a witness on behalf of the plaintiff, having been previously duly sworn, resumed the stand and testified further as follows:

Cross-Examination by Mr. Goldstein.

May 25, 1932.

I have been in charge of making studies in connection with depreciation expense since about the latter part of 1927. The first rates that went into effect under my supervision were

January 1, 1928. While I probably am not specifically familiar with the factors that were taken into account in connection with the studies of depreciation rates estab-
3206 lished prior to 1927, I would, of course, know from my own experience what factors might have been considered. And in the early experiences there may have been factors considered of which I am not aware. I am not familiar enough with the factors that were used prior to 1927, in determining the depreciation rates established by the Company prior thereto and which are offered by the Illinois Bell in this case so that I know how they were established, the principles underlying them, what methods were used in determining them, and things of that sort. Of course, I have available now the analysis of the actual experience of the Company in those years, so that I am in a position to find out just what did happen at that time, regardless of what factors may
3207 have controlled. I am familiar with the methods that were used and as I said before, I am familiar with some of the factors that would have controlled back there, as they have since that time. I am not familiar with the factors which were taken into account in the years prior to 1927 in exercising the judgment, where judgment was used to vary the studied figures, to arrive at the actual depreciation rate.

I have in the courtroom the working papers on which the depreciation rates were established in the years 1923 to 1931.

I cannot speak of the assistance of the American Telephone and Telegraph Company in the determination of the depreciation rates of the Illinois Bell for the Chicago area, prior
3208 to 1927. Since that time they have furnished us a great deal of basic information regarding methods and have checked the results that we have worked out by the application of those methods to determine whether our application of them was correct. The American Telephone and Telegraph Company sent to the Illinois Bell instructions regarding the methods of studying life and salvage. Of course, we have been attempting to find ways and means of improving any methods that we are using locally, and I could not say that we have not made any variation in the methods that were

originally applied. Those methods that came through the written instructions of the American Telephone and Telegraph Company were the basic methods used by us subject to local variation.

3209 I don't know that we have furnished defendants any written instructions that were sent out by the American Telephone and Telegraph Company but we have done the equivalent of that in explaining precisely what the methods were and are. My understanding was that we were to make available to defendants anything that their people thought essential in their investigation of our methods and results. We had available all data that we used, and all documents that we used in our determinations. I have always had those written instructions of the American Telephone and Telegraph Company available, if anyone had desired to see

3210 them. I delivered all other data and documents and made them available to the defendants and explained the methods to them. I did not deliver those particular documents, that is the documents containing instructions from the American Telephone and Telegraph Company covering the methods used in determining depreciation expense.

3211 In forecasting, we analyzed our past experience, and in some cases projected that experience into the future. Such information that we have worked up for that purpose may be similar to the provisional estimates, but we have not relied upon the provisional estimates. They cover, in the first place, too short a period. Some of the things that were matters of fact in those provisional estimates were similar to those which we used in forecasting for those years.

I was in the courtroom only part of the time when Mr. Redmund testified on per cent condition. I testified in down-state cases on per cent condition.

3213 I stated that growth is probably the chief cause of retiring telephone property in Chicago. The factors that cause growth, I should say, are increasing population, increasing business and perhaps an increasing ability to afford to secure services or conveniences of this type. That is, one factor would be new customers. I have been speaking

of the factors that bring about the acquisition of new
3214 customers. The factors that enter into this growth
factor in depreciation are new subscribers, additional
facilities to existing subscribers and increasing calling rates
and holding time. The Chicago area practically covers the
entire city of Chicago now. The gradual extension of resi-
dences and business and so on into vacant areas within the
city would be a factor that would give rise to this growth
element.

Growth may result in inadequacy. The retirements that we refer to as having been made due to inadequacy are
brought about by an insufficiency of plant which has
3215 caused the retirement. Just now, I do not think of any
other factor besides the growth that leads to this inade-
quacy.

I testified that in the case of central office equipment and buildings the property is built up by an initial installation and a series of subsequent additions and then all of the equip-
ment or building is retired simultaneously, except for relative small retirements that occur during the over all period.

I further stated in this same connection, with reference to central office equipment and building, that each subsequent addition to the initial construction or installation has a com-
posite shortening effect upon the average life of the property as compared to the over-all life.

To illustrate that principle this is what I have in mind: On January 1, 1932, we install a manual office having an initial construction of $500,000 for the building and $500,000 for the equipment. We forecast that the equipment con-
structed on January 1, 1932, will be retired at the end
3216 of twenty years. Eliminating now the question of sal-
vage, instead of taking one twentieth of the cost of the equipment, we forecast that within that twenty-year period, say ten years from now, 1940, we estimate that we are going to put in another $100,000, and then fifteen years from now we estimate we are going to put in another $100,000, and seven-
teen and a half years from now, we will say, we are going to put in another $100,000, so that we will have $300,000 of

additions not yet put in, but which we are going to put in in the next twenty years, which will have a shorter life than twenty years. Then we say that in determining the present rate, we will take the sum total of the twenty year life of the equipment now installed, and what we estimate will be the life of the property that we expect to put in ten years from now, that we expect to put in fifteen years from now, and that we expect to put in seventeen and a half years from now, and we arrive at a composite life and that gives us the composite rate.

With respect to the buildings we would estimate that the buildings that we build on January 1, 1932, would have a 3217 life, we will say, to 1980, and we estimate that in 1940 we are going to add to that five hundred another hundred thousand, and in 1950 we are going to add another hundred thousand, and in 1960 we are going to add another hundred thousand and in 1970 we expect to add another hundred thousand. So that we are going to add together the 500,000 that we now have and the 100,000 that we expect to put in in 1940, and the 100,000 that we expect to put in in 1950, and the 100,000 that we expect to put in in 1960, and in 1970, and we say that the one in 1970, if we put it in at that time, will only, therefore, have a life of ten years, and the one in 1960, if we put it in, will have a life of 20 years, and the one in 1950 we expect will have a life of 30 years, and the present one should have a life of 50 years, and the composite of all that will be less than 50 years, so you arrive at your total composite rate which we apply from today until 1980.

3218 "Q. And in connection with that you take the dollars that you are going to put in in 1960, without taking into account what a dollar in 1960 is worth today, on the basis of either 3 per cent or 4 per cent or 5 per cent or 6 per cent compound interest, that is correct, that you do not take into account the earning power of the dollar today to 1960 or 1970 or 1975. You don't estimate that earning power do you?

"A. I don't understand how you could do what you have in mind, Mr. Goldstein.

"Q. That is, if you expect that you will have to provide a dollar in 1970, do you take into account that, to get a dollar in 1970, you would now need only 6 cents or 10 cents, at 3 per cent compound interest until 1960?

"A. That wouldn't give us anything, if we did that.

"Q. But you don't take that into account?

"A. What we are trying to get is the.—

"Q. Please answer the question, and then you may explain it. Do you take the interest factor into account, if the answer is no?

"A. We cannot do it.

3219 "A. We cannot do it, to arrive at what we are seeking.

"Mr. Goldstein: Then you don't. But you do take into account the fact that you estimate in 1932 that in 1970 you are going to put in $100,000 in an addition?

"A. If that assumption you are making is something that is in accord with what we do, yes."

This is what we call the detail forecast method.

3220 The shortening of the composite life as against the over-all life of the initial construction will tend to increase the depreciation rate, and so the depreciation charge for operating expense. It will, in a case such as counsel has used as an example, where you are starting out with a new building, but I think that in the case of our actual plant as it exists today, it lowers the rate.

3221 This work sheet for the Merrimac office was prepared similarly to page 5 of Exhibit A-128, referring to the Kedzie office, which runs to 1936, (which sheet entitled "Historical Data Relating to Equipment" was marked for identification as Defendants' Exhibit D-119).

D-119 shows that in 1926 we installed $378,000 of initial construction. In 1927 we installed (in round figures) $212,000; in 1928, $22,000; and in 1929, $12,000. Up to the time that we made our study similar to the one on page 5 for the Kedzie office, we had made actual installations of $625,412. We

3222 forecast that in 1930 we would put in $61,300; in 1931, $71,000; in 1932, $289,000; in 1933, $109,000; in 1934,

$170,000, and so on each year thereafter to 1940, when we would put in $63,800; in 1941, we expected to put in $51,900; in 1942, $56,300; in 1943, $55,000; and in 1944, $26,000. The total of these expected additions in the future ($1,400,000) makes a total of $2,000,000 for this office; that is, $600,000 up to and including 1929, actual installations, and the estimated additions of $1,400,000. During the same period we expected to take out the following amounts: In 1943, $300;
in 1942, $500; in 1941, $100; in 1940, $200; in 1939, $200;
3223 in 1938, $400; and so down to 1933, which would be $3,500; and in 1931, $3,100. The total retirements up to 1929, the date of our study, are $4,900, and then we estimated for each year in the future the separate retirements (the final retirement in 1944 being $1,990,000) so that by 1944 all of the equipment will be out.

In 1942, we will have $56,000 of installations, which will last two years. We will not in those last two years accumulate the moneys to take care of the retirement of that $56,000. We will accumulate throughout the over-all experience of the office enough money to cover the total loss in the using up of that equipment. Now, as far as that retirement goes, of course if we were to accumulate in these two years the amount of money necessary to take care of that specific loss, we would
have to use a higher rate. That is not the reason why
3224 we accumulate it before we put it in. The reason that
we accumulate it throughout the over-all experience of the office is that we understand the purpose of depreciation is to allocate the ultimate losses as evenly as may be
throughout the average life of the property. The pur-
3225 pose that we have in mind is to determine a rate which
throughout the life of the office, applied to the varying investments, will restore the amount of investment we have in the equipment, less any salvage that we may obtain. The purpose of that is to get a similar rate that may be used throughout the over-all experience, so that we do not burden our expenses along toward the end of the life of an office, as compared to the amount that we set up in the early part of the experience. It is not to take care of the investment we

now have, in the initial construction. My reference to the investment meant the complete investment in central office equipment in an individual office.

3226 We start off (in the case of Merrimac) with $378,000 and we expect to increase that investment up to 1944 to two million dollars, and beginning with 1926 we establish a rate which will, by 1944, repay us not only the $378,000 but the balance to make up the two million, to restore the entire investment in central office throughout the over-all life. Coming back again to 1943, we expected to put in $55,000 in that year in the Merrimac office, and that represents an investment we expect to make. The funds to pay us back that $55,000 one year later is starting to accumulate, beginning with 1926. As a matter of fact the funds that we require to pay us back the entire investment throughout the entire experience of the office are accumulating throughout that experience.

"Q. Yes. And the portion of the $55,000 that you will not use until 1943, but which you start to accumulate in 1926, who gets the money, who holds that money? The Company?

"A. I don't know.

"Q. It comes out of their revenues, and goes into the treasury of the Company, does it not?

3227 "A. Why, I presume so, I don't know.

"Q. And what becomes of the income on that money while it is being held from 1926 to 1943, when you expect to put it in?

"A. The income?

"Q. Yes.

"A. I don't know. I have nothing to do with the disbursements, or the use of the income from any moneys that the Company gets."

I do not take into account that before we expect to use the money, or to make any investment, we will have these dollars from 1926 to 1943, or seventeen years; I do not take into account that during these seventeen years these dollars will earn money.

3228 I have here the work sheets for the Merrimac office building (which said sheet, entitled, "Historical Data

for Mortality Study of Buildings" was marked for identification Defendants' Exhibit D-120).

The Merrimac Building was built in 1926 at an actual cost of $235,560. From that day to 1930 which was the date of our study we had increased our investment by about $3,000.

Now, according to our forecast, in 1931 we would put in
3229 $152,000. Our forecast indicates the following additions in the following years: in 1944, $645,000; in 1954, $95,000; in 1964, $100,000; and in 1974, $62,000. We expect to retire $9,000 in 1974; in 1964, $11,000; in 1954, $10,000; in 1944, $75,000; and in 1931, $10,000. Then in 1984 we expect to retire $1,176,880.

On the principle as I just have stated it, we start in in 1926 to establish a depreciation rate and a depreciation charge against income so that by 1984 we will get back
3230 the $235,000 that we put in in 1926, the $3,000 that we put in by 1930, and the approximately one million dollars that we expect to put in at varying times in 1931, 1944, 1954, 1964 and 1974. Of course, we are using a rate that will restore the total amounts that I spoke of, but only applying it to the investment we actually have. That is, we apply it to the investment that we actually have as a measure, in order to get the number of dollars which will enable us to come out whole on $1,176,880, in 1984.

"Q. The fact that you use the plant as a measure for your rate does not mean that you are only accumulating dollars to take care of the investment in that plant? The investment that has to be covered by the rate is not only your plant investment, but the future investments?

"A. Yes, that is right. In determining the rate, that is correct."

3231 Our fundamental plans go about twenty years in the future. The $95,000 addition to Merrimac building shown on D-120 for 1954 is based on our estimated growth in lines, and that is translated into terms of central office equipment, and that, in turn, into building requirements. We estimate that in 1974 we would need $62,000 additions and that we would retire $9,000 in the following manner: the additions were determined, or estimated in the same way that I

have explained for the other item and the retirements are predicated upon the per cent relation of retirements in the past which have been associated with additions, that is, whenever we make an addition to a building, we, of course, in our rearrangements, retire some part of the existing build-
3232 ing, and that is based on the percentage that we found by our actual past experience.

In D-120, for the Merrimac office building, when we figured the number of dollars to accumulate, to take care of these investments that we expect to make, we did not take into account that those dollars that accumulate in the meantime would earn anything; that is, I did not take into account in my calculations the earnings on those dollars.

Referring to Exhibit A-128:

"Q. The principle that you use of providing from the date of the original installation to the date of the final retirement of the original installation not only investment in the original installation, but all these future additions,—that principle is applicable to what is designated on page 3 as group 1, is that correct?

"A. Yes, sir."

Group 1 covers buildings and central office equipment, which represent 41.21 per cent of our total investment in property, and 47 per cent of our depreciation expense. From page
3233 6 it appears that the investment in manual central office equipment, to which this principle is applicable, on December 31, 1929, was $31,081,268, or 19 per cent of our investment. That thirty-one million which is our investment for manual is in addition to the dial central office equipment, which, from page 4, represented 10.25 per cent of our total investment on that date. The dollar investment in dial central office equipment at the end of 1930 was $17,253,456.
3234 I stated that the method used in connection with dial equipment was predicated upon the principles of the manual equipment, excepting for certain modifications which I indicated would tend to lengthen life, or shorten it, but the variations did not vary the principle, namely that we take the initial construction plus the future additions to the date

of the ultimate retirement of the initial construction; we accumulate it, and determine a composite rate which, from the beginning to the end, remains constant.

3235 The principle that I have explained I think was used back beyond 1923. That is, we used the principle of accumulating additions. The difference between the earlier years and the later years is that in the earlier years we used it as a factor to be considered in reaching our judgment, and in the later years, we had greater detail upon which we based our judgment. Beginning as far back as 1923 the same principle was used in connection with this type of investment. In connection with the buildings: as shown in group 1 (Exhibit A-128, page 3) the buildings constituted 8 per cent of our total investment in depreciable property in 1929. On page 4 the buildings are divided into manual and dial central

3236 offices, and the general office. The general office is subject to the same principle but naturally to a much less extent. The building is not susceptible of further structural additions, but we will have replacements of such things as boilers and elevators and so on that are handled through the depreciation accounting.

"Q. Will you please turn to page 9. If I read this correctly, in arriving at the computations on depreciation expense, your principle involved the assumption that the Merrimac building will go to 1984; that is, that you have similar expected lives for other offices such as Beverly, 1980, Kildare, 1983, South Chicago, 1978, and Pullman, 1979; is that right, and so you run down others the same way?

"A. Yes."

In D-119, we estimate that the equipment in the Merrimac office will all be retired in 1944 and estimate that the building will be retired in 1984. We only take additions in our office equipment to 1944, but take the future additions on buildings to 1984. We stop with equipment at 1944 and do not accumulate additions to 1984, because it is our estimate that in 1944 the present manual equipment in that office will be com-

3237 pletely eliminated, and we will change to dial equipment, a different type of equipment entirely.

Under this same principle in 1945, if we put in $500,000 of dial equipment, we would establish a depreciation expense which would take into account not only the $500,000 in 1945, but the additions to that dial equipment from 1945 to 1984. We arrived at 1944 as the date of retirement of equipment for the following reasons: the entire city has been studied by our Equipment engineers with a view to determining the most desirable time to complete the entire conversion to dial operation, and the individual offices have been studied in accordance with the time when either growth requirements might cause a major addition to the office, at which time it would be most opportune to change to dial, or for other desirable reasons, based on traffic requirements, consideration of calling rates and so forth, and this office was designated for that particular year. That date of 1944 was determined in 1929,
3238 and on the conditions existing in 1929 as we saw them in 1929.

In 1929, we did not foresee the conditions in 1930, 1931 and 1932 so we did not take that into account. Since that time our dial program has been changed to give effect to present conditions. That change has deferred the date of ultimate retirement. That was the allowance that I made, as I explained in my direct testimony, for using a longer life than the one resulting from our analysis based on the 1929 group.

"Q. And as you deferred your dial equipment program to 1945, or to 1950, you would likewise defer the additions to be made subsequent to 1933 in your manual office? That is, you have a manual office, the equipment to last until 1944. In 1944 you are going to take out that equipment, and put in dial equipment; on the basis of that program you estimated that in 1942 you would put in a certain number of additions and in 1941 you would put in a certain number of additions. Now, you have deferred since 1929,—you have changed your
3239 plan, and your dial installation will be 1950, we will say, or 1948, or some year subsequent to 1945. Will that affect the ultimate retirement date of your manual office?

"A. If we did that, it would, of course."

If we were now to make a sheet for the entire city under

the assumption of the above question and similar to D-119 for the Merrimac office, the ultimate retirement of the initial construction would be deferred. We have just completed a study of that kind, that shows the average life to be 12.8
3240 instead of 11.7. I figure that the manual equipment of the Merrimac office will go out in 1944. I still expect to take out that equipment in 1944, and we intend to put in dial equipment in its place. We are going to put in our dial equipment in 1944. That is our present program. We have not changed our program as to the initial installation of the
3241 dial. That is what I wanted to explain before. We have not as to these offices that we have estimated having retirements in remote years, like 1944. We do expect quite a bit of deferment of the earlier part of our project, which is seriously affected by the present business conditions. We expect (although we are going ahead with some offices next year) that some which we have scheduled will be deferred perhaps several years: that is, the earlier schedules. In respect to Merrimac we do not expect any change because of present business conditions. We do expect changes in the additions to Merrimac for the period from 1933 to 1944. They will be deferred.

In 1929 we expected that we would need to put in $95,000 in 1935. In 1931 we expect that we won't need that
3242 $95,000 until some date later than 1935. That is, we have deferred the future date when we will require the additions. In the case of this office we have not deferred the date when we expect to retire the office ultimately. The result of the change in the program for this office will tend to shorten the life of this office. As we shorten the life then since 1929, our depreciation rate will become greater, and our depreciation charge will become greater assuming no change in the salvage.

3243 As I explained before the additions are based on our estimate of growth in lines, our requirements to meet the growth in subscribers and lines and calling rates, and to some extent in other items. For instance, as new dial offices are cut into service, there is additional equipment required in all

other manual offices to take care of the interconnection with the dial offices.

"Q. Yes. I would like to know what conditions you assumed in 1929 would exist in 1974 with reference to the Merrimac Building that would require an addition of $62,000 so that you have to start to accumulate the money back in 1926?"

The Merrimac Building is one of the lower groups shown in Exhibit A-128. Now, the way we got at this estimate of life and this ultimate retirement date was in this manner: We have a pretty good estimate of when the change to dial equipment will be made, and that estimate was, as I stated before, in 1944. Now, in the case of our dial offices, for
3244 the reasons which I have stated in my direct examination, we estimated an over-all life of fifty years. In the case of existing manual buildings that we think can be continued in service during the period of the dial operation, we have estimated an additional life of forty years, that is, an over-all life beyond the time when we make the change to dial, and at which time we will have a very extensive addition to the present manual buildings of forty years, and that is how we get that date of 1984. Now, we know about how our buildings are added to, they are actually added to on an economical basis of periods of about ten years, and it is on that basis that we happened to get that particular date you referred to for the additions.

The Merrimac Building is located out on the north-
3245 west side.

"Q. What conditions did you assume in 1929 would exist in that neighborhood in 1974 that would require you to add to the Merrimac Building in 1974 $62,000? Did you estimate any conditions there? What was the picture that would require this money added as you saw it in 1929?"

We did not attempt to visualize any conditions that might exist in 1974 with reference to a particular neighborhood. All we did was to add to all of these buildings that would be given a new period of life, forty years, and then we merely assumed that the additions would be made in about the normal manner that our experience indicates. We were dealing with a concrete object in our study, namely, the Merrimac Building.

"Q. Now I ask you what conditions did you assume would exist in 1974 here in the building or surrounding the building that would require an addition of $62,000 in 1974? Now that is my question."

3246 We did not attempt to predict what conditions would exist in any particular neighborhood in Chicago over so long a period. We did consider that a certain growth in the city of Chicago would continue for that length of time, and we treated all of the offices that are to get a new period of extended life at the time of dial operation in accord with that over-all expectation for the city of Chicago. Now, that may be erroneous in some neighborhood, it may be that we have estimated too low for one office, and too much for another, but I think that in general, because our past experience has shown that we do grow in buildings at an interval of about ten years, that it is a fair estimate of what we may expect for all of these buildings.

May 26, 1932.

3250 By "over-all life" of buildings, I mean the life from the period of the initial construction to the retirement of the initial construction.

3251 I do not know whether the principle underlying depreciation rates on property included in group No. 1, that is, central office equipment and central office buildings, is used throughout the entire Bell System covering similar items of plant. I know that it is in some other companies and I know that it is a method that has been developed by engineers of the American Telephone and Telegraph Company, but I do not know whether all the other companies use it. I am quite sure that one or two of the other companies use it. I could make a statement to this extent, that in discussing the matter with other men of other Bell System companies whose work is similar to mine, we have covered the method that we have used here in Illinois, and they have indicated that they are using it.

I do not know whether the same principle that is used
3252 with reference to toll equipment and buildings is used by the Long Lines Department of the American Telephone and Telegraph Company. The Illinois Bell Telephone Company uses it in connection with the plant devoted to toll use.

I do not know whether the same principle is used with respect to equipment and buildings used by the Bell Telephone Laboratories of the American Telephone and Telegraph Company. I do not know whether it is used by the Western Electric Company, nor whether it is used by the American Telephone and Telegraph Company in connection with its properties used in connection with the services of the general staff.

With respect to dial office buildings, the depreciation
3253 rates are predicated upon the use of the same principle of accumulating the additions, plus the initial construction.

3256 I have the Beverly office equipment study here.

(Which document was thereupon marked "Defendants' Exhibit D-121" for identification.)

D-121 is historical data relating to equipment of the Beverly central office, and shows the initial construction, in 1914, was $77,148. Our last retirement, in 1940, is $1,251,155. From
3257 1914 to 1929 the figures on D-121 representing the installations and retirements for each year represent our actual experience. We did not have a study in 1914, when the office went into existence, estimating what the experience would be. This is a retrospective analysis of what has happened in the past as far as the period prior to 1930 is concerned.

3258 The $62,000 of expected additions for the Merrimac office (shown in D-120) for 1974 was predicated upon costs prevailing in 1928 or 1929. The additions to equipment which we expected to make in the years from 1930 to 1940 were based on the average cost per line of equipment installed in 1928 and 1929, as I recall it. The additions to buildings were based on approximately the same cost level as of 1928; that is, the cost levels of the buildings in 1928 and 1929.

I previously stated in connection with the factors which I took into account in estimating the life of dial equipment that I "do not expect cost levels to operate in the same direction in the future, that is, as far as I can foresee it". Specifically, that had reference to a rising cost level of the past which
3259 we do not expect to occur in the future. I have been of the opinion for some years that prices in the future would not increase above 1928 and 1929 as they had increased above 1914 in the past. I have been of that opinion, I might say, ever since the peak of prices in 1921.

The plan of future additions on the Merrimac Build-
3260 ing from 1926 to 1984 as stated in D-120 is a collaborated effort with the Building engineers as to buildings. Of course as to buildings I sought and obtained the advice of our Building engineers as to costs, and we analyzed the normal growth of buildings, and, as the result of our combined discussion of the matter, I arrived at those conclusions. I did not get any help from the American Telephone and Telegraph Company's general staff in any way in connection with arriving at these conclusions. That is entirely a local problem that we are dealing with here.

3261 The plan outlined in D-120 was not based on any discussions with the Building engineers. I had reference to the aid that I sought and obtained in regard to costs and the normal growth of buildings, but as to the plan, that is, the method of arriving at depreciation rates, the Building engineers probably have very little knowledge of that. That was based on the general plan we have of determining depreciation rates on the realized life basis.

In arriving at my conclusions that $62,000 of additions would be made in the Merrimac Building in 1974 and that there would be $9,000 actual retirement in 1974, I consulted directly with the Building engineers, of course. Behind that are certain forecasts that I have had to make in collaboration with the Commercial engineers and others, but those particular sums were the result of my discussion of the matter with the Building engineers. I got no help from the American Telephone and Telegraph Company in connection with my forecast of 1974.

3262 In discussing the studies based upon conditions in 1898, I stated:

> "If we analyze the experience of individual years, as for example the year 1898, it would be of little significance in drawing conclusions for the life of present property because conditions change; that is, conditions and factors controlling life change over so long a period."

The same reasoning would not apply to cover my judgment in 1929 as to the year 1974, when I expected that we would invest an additional $62,000 in the Merrimac Building. I think that I ought to clarify that point a little bit. You are discussing in one instance buildings, and I had in mind chiefly property that was more or less controlled by public demand, such as station apparatus, private branch exchanges, and so forth. The development of new types of apparatus and equipment might have a marked difference over so long a period, but when it comes to the planning of a building, we naturally look well into the future, and if there are possibilities of decided changes in the controlling conditions in respect to a
3263 building, we attempt to foresee those things when we plan the original unit, because naturally we have to plan the original unit of a building to permit of expansion; that is the economical thing to do and it is the method that we follow at all times. But when you deal with station apparatus, which has a very short service life, you are getting many turnovers of the property and complete elimination of property, during a period as long as you are referring to. For instance, a great deal of the equipment, if not all of it, that we had in 1898, is no longer in existence, if you consider station apparatus.

The depreciation rates established on buildings in 1930 were established upon the principle of realized life to retirement plus the additions, as just discussed. The principle used in determining the life for the rates effective January 1,
3264 1928, was the same. There has been a slight change in the method of making the studies, but the effect is the same. The principal change was that in the earlier years we

did not attempt to make a detailed forecast of when future additions would occur, and what their specific and individual effect would be. At that time we used a life curve related to the initial age; that is, we determined what the average life would be, obtained from the equipment and buildings if they survived to a certain initial age or overall life, and we estimated the average life on the basis of the relation of that curve and our expectation of over-all life. Starting with 1930, we made our detailed forecasts as we now do; that is, we estimated the additions in the future and worked out by mathematical computation the average life resulting from those specific estimates.

3265 Of course, we do not attempt to project our views so far into the future as would be represented by dial buildings, for example. There we have merely taken the experience that we have analyzed for manual buildings and made such adjustments or modifications of that experience as we think proper to suit the conditions as we see them in the dial buildings, but we do not attempt to forecast detailed additions so far into the future. We did it in one case that has been referred to a number of times here because we were compelled to do that or use a higher rate of depreciation as an alternative. Our dial life in those years was a matter of judgment.

3266 If I am not mistaken, one of the methods of analyzing experience for both 1923 and the period 1924 to 1927, during which a constant rate was used, was based on turnover cycle studies. I am not sure whether the turnover cycle method was used for buildings but we usually study buildings and central office equipment in the same way. I know they studied central office equipment by the turnover cycle method, but I am not sure about buildings.

"Q. As a matter of fact, did you not use for your rate in 1923 the experience of five office buildings, central office buildings, that were sold, and as the result of the experience under those five office buildings you arrived at a judgment as to what the life would be, and so the rate?

"A. Well now, you are asking me what reasoning was used in arriving at judgment by my predecessors—

3267 "Q. No.

"A. (Continuing)—And I can hardly say that. But now that you mention that, I believe that I have been informed that in considering what life would be proper for use in depreciation rates, an analysis of the experience of buildings actually retired prior to the time of the determination of the rates was relied upon to some extent."

I do not know whether the life determination was based upon any other factor, or based upon any other data than the experience of these five office buildings, in connection with the establishment of the depreciation rate on buildings in 1923. I did not do the reasoning at that time and formulate the judgment. I do not know just what factors the men who made the earlier rates had in mind; I do know, however, that what has been referred to was one of the things they did, that is, to consider the life experience of buildings that had previously been retired.

3268-3276 (At this point there was a colloquy concerning rates of depreciation for the years prior to 1928. Counsel for the City stated they would object to the exhibits covering depreciation rates and expenses for all years prior to 1928 and all testimony offered in relation thereto by this witness on the ground that there had been no witness and no evidence stating the basis upon which said rates and expense had been established and no way in which they can check the basis. Counsel for City further stated that "we want a witness who can tell us how these rates were established in the years prior to 1928". Counsel for City also served notice that he would object to plaintiff's exhibits in which it had set up depreciation expenses for the years 1923 to 1928 on the ground that there had been no foundation laid for the method by which they arrive at the expense. Mr. Bracelen pointed out that the specific sheet referred to by Mr. Goldstein, page 8 of Exhibit A-125, was offered in evidence by the defendants at the previous trial as City's Exhibit A-140, appearing in the printed record in the Supreme Court at page 2284. Counsel

for City stated it had not used that sheet to establish the expense which the plaintiff was establishing and stated that plaintiff was using those figures to establish the expense for 1923 to 1930. Mr. Bracelen further pointed out that the depreciation expense charges of the Company for the years 1923 to 1928, both inclusive, were proved in evidence on the former trial and the witnesses were cross-examined by counsel for the City, all of which is present in the record. Counsel for City stated: "No, but the issue is entirely different than it was then, and we have a right to examine now in the light of the present issues which the Supreme Court has established under that opinion." Counsel for City stated that none of this colloquy constituted an objection or motion to strike upon which a ruling was required; but was a notice.)

The central office equipment studies which I used in establishing the rate as of January 1, 1928, differ from those which I used in connection with the establishment of the rate of January 1, 1930, in the same manner that I have described for buildings; that is, in the latter studies, those of 1930, we used a detailed forecast of future additions and retirements,

whereas in the 1928 study we determined the ratio of
3277 average realized life to initial age and estimated the
over-all life, and by that process determined the average life.

"Q. And I take it that your answer as to the methods used prior to 1928 will be the same as it was before; 'I do not know', is that correct?

"A. Why, I did not say that I did not know what the methods were."

What I said was that I do not know what the reasoning processes were that the men in charge used in arriving at their rates.

I know the character of the studies that were used for central office equipment in the period from 1924 to 1927. Those

methods were turnover cycle studies. That was the basic
3278 method in analyzing life, and it was supplemented by
some method that had for its purpose the determination

of the trend of life during the period of the turnover of equipment. That was the logarithmic formula that we used. It analyzed the past experience.

3279 The purpose of the first method (that is, the one used from 1924 to 1927) was to determine the length of time that it required to completely eliminate a given amount of plant at some previous year. In the later case, the method was to determine the composite life of the various lives of the different increments of equipment throughout the over-all experience of an office. The second method dealt with the actual experience of the past plus the estimated experience of the future. I did not abandon in 1928 the method used in 1924; I never used that method. I did not use the method in 1928 that was used by my predecessor in 1927 because I considered the method that was adopted in 1928 an im-

3280 provement over the method which was used prior thereto. The turnover cycle method was also used in establishing the rates from 1921 to 1923 for central office equipment.

We made no adjustments for price level in our studies from 1921 to 1923. I have in the courtroom the records which show the various methods used from 1921 to 1930. I have examined the methods that have been used throughout that entire period, and I have used the methods that have been employed since I have had charge of this work in arriving

3281 at conclusions respecting depreciation rates.

The method used for the period from 1921 to 1923, December 31st, and the method used from 1924 to 1927 for central office equipment fundamentally are similar; they are both turnover cycle studies. The only difference is that in the earlier studies, those of 1921 to 1923 inclusive, the period covered was the period represented by the accumulation of gross additions until they equaled the plant in service and the period of accumulated retirements until they exhausted that plant. The turnover period was represented by the period of elapsed time between the average period of the gross additions and the average period of retirements. In 1924 the method that was employed dealt solely with the accumulated

retirements, just as we do today in some other classes of property. That is, the turnover period was that period represented by the reverse chronological accumulation of re-
3282 tirements until they equaled the plant in service at some previous time.

In our later studies we have made adjustments for price level.

"Q. But you did not—but they were not made from 1921 to 1923?

"Mr. Bracelen: I think, your Honor, that the witness is not shown to be competent—

"Mr. Goldstein: He has stated that he knows about it.

"Mr. Bracelen: (Continuing) And this is not cross-examination. The point I have in mind is this: It appears from the evidence in the former trial that Mr. Hale had charge of the determination of the depreciation rates during all of that period. He was the witness who put in the testimony for the plaintiff upon the former trial. Now, counsel is asking this witness about a judgment factor used by somebody else—

"Judge Wilkerson: Well,—

"Mr. Bracelen: —in the years 1921 to 1923.

3284 "Judge Wilkerson: What do you know about it?

"The Witness: Why, your Honor, the only thing I know about the previous work is that I am familiar with the methods that they employed in analyzing the past experience, but I have no knowledge of what reasoning they used in arriving at their conclusions.

"Mr. Goldstein: We are not asking for the reasoning.

"A. (Continuing) As to the life and salvage that should be used.

"Judge Wilkerson: Is the witness who did that work available for cross-examination?

"Mr. Bracelen: No, your Honor.

"Mr. Goldstein: He is President of the Company.

"Mr. Bracelen: No, he is not available. Mr. Hale is here, of course, but Mr. Hale testified upon the former trial. He was not then President of the Company. He then had charge

of the depreciation rates of the Company. He was cross-examined and that incident was closed.

"Mr. Goldstein: How will we ever be able to get the comparable experience with Chicago with the rest of the country under the Supreme Court's opinion for those years unless we know what they did?

3285 "Judge Wilkerson: You may cross-examine this witness about anything as to which he has testified on his direct examination, or as to which he says he knows anything.

"Mr. Goldstein: Well, he has testified that he knows about the methods and I am asking him about that method.

"Mr. Haight: And he vouches—

"Judge Wilkerson: You need not get into an argument with the witness. If you have an exhibit here based upon the testimony of somebody else, do not try to cross-examine this witness about it.

"Mr. Haight: All right. Then we will take this position, that these exhibits and the exhibits of Mr. Kruse that have been offered by the plaintiff in this case in relation to depreciation expense, in view of counsel's position that there is no cross-examination to be had of the men who vouch for these exhibits that go back over the period, they disqualify their own exhibits, and there we will rest.

"Mr. Goldstein: Yes.

"Judge Wilkerson: You may cross-examine this witness about anything as to which he is able to testify and you may cross-examine on anything that was gone into on direct,

3286 I mean in connection with the producing of these exhibits.

"Mr. Goldstein: Yes.

"Judge Wilkerson: So far as he knows the facts, you may cross-examine him upon them."

I know the method used from 1921 to 1923 in connection with the study of life of central office equipment. The method of analyzing the life experience of central office equipment at that time was what we term a turnover cycle method, and it involved an analysis of the period during which a given amount of plant was completely exhausted. At that time it

took the form of accumulating gross additions until they equaled the plant in service and then accumulating in reverse chronological order the retirements until they reached the same point. The average life was determined by the elapsed time between the average date of the accumulated gross additions and the average date of the accumulated retirements. That method did not make an adjustment for price levels from 1921 to 1923.

3287 We used the turnover cycle method in establishing the rate for station apparatus effective January 1, 1930. In connection with the turnover cycle method, I make adjustments for growth. The same method was used in establishing the rate effective January 1, 1928. I know what method was used in establishing the rate effective January 1, 1924. It was the turnover cycle method. The turnover cycle method used in 1924 to 1927 differed in this respect from the turnover cycle method used from 1928 on, as far as the records that I have in my files disclose. The fundamental of the turnover cycle method was employed at that time, as it is today, but I am unable to find any record of the growth

3288 adjustments. They did not use the logarithmic formula in connection with the method in 1924 for the purpose of growth adjustments but for the purpose of determining the life trends during the interval of the turnover period, as I understand the use of it.

I used the method effective January 1, 1928, instead of the method that had been used for the period prior thereto because, in that particular case, when I started on this work in 1927, a new method had been developed which I considered a very splendid method of arriving at these results and I adopted that method. I examined the previous method to some extent, but concluded that the new method was perhaps more accurate in its final result.

I established the new method about which I speak in 1927. I did not develop the new method; I established the process of analysis here in the Illinois Bell Company. I say I found a new method had been developed for making the growth

3289 adjustments; I am not speaking now of the basic turnover methods, because that has been in effect for quite

a number of years. I obtained the information that this new method had been developed from the American Telephone and Telegraph Company. I think it was developed by the American Telephone and Telegraph Company.

The turnover method in the form which I have already described was used in establishing the rate effective from 1921 to 1923 as to station apparatus. That is, the accumulation of gross additions and displacements. In connection with that method there was no adjustment made for price level.

3290 I used the mortality studies in establishing the rates effective January 1, 1930, for private branch exchanges. We used the graduation process of determining the average life in its application to observed or actual data. I used the same method that I have just described for 1930 in 1928 in establishing the rate effective in 1928. As a basis for my study in 1930 I did not use any more facts or classes of facts as to private branch exchanges than I did in 1928.

The method used from 1924 to 1927 in connection with
3291 private branch exchanges was the turnover cycle method.

We also used the logarithmic formula as a supplementary aid to confirm our conclusion. There was an adjustment for price level.

In arriving at conclusions as to what life should be used in depreciation rates that look into the future for at least two years until new revisions of basic rates occur, we consider as far as we can what factors have controlled the actual experience analyzed and to what extent future conditions may affect the life and cause a variation from the actual experience of the past.

"Q. The question I am directing to you now is this, in whatever study you used during these periods, after the life was determined as a certain figure, you used the life
3292 figure as found there, plus a revision due to the factor of judgment; that is, you modify the experience and do not use the exact figure found according to this study that you have used, is that correct?

"A. Well, of course the way you word that question, Mr.

Goldstein, you would think that we only find one life figure. As a matter of fact we find a series of life figures."

We determine what the life was, based on the experience in a certain group of years, and then in a later group of years, and so forth, so that we establish a trend of life for the purpose of aiding us in judging whether or not there is a tendency for the life to increase or decrease. And, in that respect, if the life has stabilized, that is, if there is a tendency for the life to remain more or less fixed, and we cannot see any reason why we should deviate from the actual experience, we use the actual experience; but if there is a trend upward or downward, and we can establish a reason for
3293 the continuation of that trend, we will use a longer or shorter life than the last indication resulting from our studies.

It is pretty hard to say, without reviewing the entire experience, whether I used for any specific item the life figure found by my study without revision, but I think that I did.

I do not recall just what we did in connection with buildings, but in 1930, of course, we increased the life, as I stated in my direct testimony, over the actual experience, in view of what we anticipate for the depression period. I do not recall whether we increased the life in 1928 over our actual
3294 experience as found then; I think we did. The revision was due to the factor of judgment. We did not have in mind in 1929 the factor of depression which we used in revising our figure for 1930. As a matter of fact, we did not vary greatly from the actual experience in 1928. We consolidated the fireproof central office buildings and nonfireproof central office buildings at that time and rounded out the life, which happened to be an increase to 25 years; but the study was based on a detailed forecast, so that we merely rounded out the actual results of our study.

Judgment enters as a factor into the life figures that we use as compared to our study figures. It enters to the extent of considering what factors may affect life of existing property in the future as compared to the factors that controlled in the past. For example, in our private branch exchange

account we have been obtaining a life of about six years,
3295 and it has been pretty well stabilized until the most recent experience, when the life has shown a decline, which may be partly due to present conditions; but for that class of property we have developed quite a number of new types of equipment. Now, the attractiveness of some of the dial private branch exchanges will undoubtedly bring about retirements of the existing manual type, and, furthermore, there are types of manual equipment having greater capacity for the same general class that will bring about retirements as subscribers' needs will grow. Now, those sort of things are given consideration, and if we think that they may result in accelerating the retirements or shortening the life, we would make an adjustment.

I would be inclined to say that as the period 1923 to 1930 progressed we used more and more facts and less judgment as a factor in arriving at our life figures than we did in the earlier years.

3296 (Witness agreed to make available to defendants record of factors taken into account in exercising this judgment. He pointed out these factors were not recorded prior to 1930.)

3297 In determining the proper depreciation expense, it would be necessary to some extent to take into account the maintenance policy of the Illinois Bell Telephone Company. I think it would be more or less confined, however, from a practical viewpoint, to any major changes in accounting, rather than to what you may have in mind with respect to maintaining the condition of the property in good shape.

The depreciation rates are based solely upon the life
3298 and salvage of the property. I would not take into account at all the size of the depreciation reserve. I did not take it into account. Some of the processes of analyzing life and salvage require us to obtain from the records of the Company the retirements and the salvage figures, and other things that may be included in that very general statement, of credits and debits to the reserve. I would take into account the gross additions to property and the retirements of property.

3299 In exercising my judgment as to prospective growth, I would take into account principally the estimated forecasts as to numbers of stations, and lines, and calling rates, and so forth, for the future. I did not say that these estimated forecasts are the ones that are also included in the provisional estimates. I think I was asked about the fundamental plan. They would be the estimates that are included in the fundamental plan, which looks ahead much further than the provisional estimates. The fundamental plan looks ahead twenty years.

In some accounts we might take into account the estimated growth for a shorter period as disclosed by the same sort of data as shown by the provisional estimates—a five-year period. In other accounts we have to approach the thing somewhat differently. We have to distribute our future
3300 expectancies over a long period of years, and in that distribution we may differ somewhat from the provisional estimates.

Our fundamental plans are not, in general, corrected every year, or every two years, for the city. We get the facts bearing upon the forecast for the immediate future (for the next five years) from the same source, which is the Commercial Engineering forces, which furnish the information for the fundamental plans. I believe they also furnish the information for the provisional estimates.

In the case of buildings, I would have to know the plans of the Illinois Bell with reference to its plan of future additions, such as was indicated in its plan for the Merrimac office building, in order to determine whether the depre-
3301 ciation expense was proper. I think we would also have to have it in the case of central office equipment. We would have to know of any changes in the accounting methods of the Illinois Bell that are of sufficient importance that they might result in affecting the depreciation accounting. So far as any major item is concerned I would have to know whether it is included in the depreciation expense or in the maintenance expense.

I would have to know something about the accounting

methods used as to extraordinary repairs. We would not have to know whether the property that was shown on the books was new property, or whether it was property purchased as second-hand property or as property from
3302 independent telephone companies. Under the present accounting system it would make no difference whether the book value of the property represented the cost of new equipment, or the cost of equipment that had already been depreciated or that was second-hand. Within my knowledge there never was at any time a necessity to determine that.

"Q. Would the policy of the Company as to retirements of properties purchased from others be an important factor in determining the depreciation expense?

"A. I do not believe I understand what you mean by 'policy'.

"Q. Well,—

3303 "A. (Continuing) Regarding the retirements.

"Q. Well, would your policy regarding—that is, if the Company purchased equipment, we will say, from an independent telephone company or purchased from a second-hand telephone company—I should say second-hand merchandise, would the policy of the acquisition whether or not it was going to retire it quickly or retire it in the normal course, affect the depreciation expense?

"A. That is, the policy of the company which had purchased—

"Q. Yes, that had purchased the property.

"A. That purchased the equipment?

"Q. Yes.

"A. Yes, I think it would, if the company elected to base its depreciation rate on the life of the property while in its possession."

In connection with the causes of retiring property, I have in mind wear and tear; that is, wear and tear not cov-
3304 ered by current repairs. I have in mind obsolescence and inadequacy resulting from physical age, supersession by reason of new inventions and discoveries, changes in popular demand and public requirements.

I also consider the same factors with reference to property not yet in existence but to be added in the future, such as that described before as to central office equipment. By that I mean consideration is given to the factors that will affect a group of property which we treat on a unit basis with respect to additions still to be made in that particular group.

3305 I consider the retirement of property (either in existence or not yet in existence) because of these causes, should be taken care of through the depreciation expense, because the uniform system of accounts of the Illinois 3306 Commerce Commission prescribes that procedure, as I understand it. I think it is the logical way to recover the losses and that it is the equitable way to do it. That is, the owner of the property is entitled to get back his investment which is being retired through these causes, either through salvage or the accruals under the depreciation accounting.

"Q. And the purchaser of that property, would a purchaser of that property take into account those same factors of loss, the factors that would retire the property when he made an investment in that property?"

I think a purchaser of the property would take into account principally the earnings that he could get from the property in arriving at the amount he would be willing to pay for the property.

"Q. And the earnings that he would get from the property would be determined primarily by the length of the service life, wouldn't it, that would be one of the essential factors?

3307 "Mr. Braeeken: That is objected to as calling for a conclusion of law, calling for the opinion of the witness upon a matter that is not the subject of expert testimony, it is argumentative, is not proper cross-examination.

"Judge Wilkerson: I don't know that I understand it.

"Mr. Goldstein: Well, the witness has answered that a person buying a piece of property, telephone property, would take into account the earnings that he would expect to get

out of that property, and I asked him whether the service life would be—whether the earnings of the property during the period would be determined by the length of service life. It is perfectly obvious that if I am buying a piece of property, and I expect to get out of my thousand dollar investment—

"Judge Wilkerson: Well, if it is perfectly obvious, why ask him about it?

"Mr. Goldstein: Q. Will you answer? I want to know whether it is just as obvious to the witness. I may be wrong. I am not testifying.

"Judge Wilkerson: I think he has answered sufficiently. You can argue that to the court."

3308 With reference to the station apparatus, I estimated an average service life of four and a half years and an average net salvage of 70 per cent. The average service life of four and a half years means the length of time that a station is on the premises of a subscriber, on the average. I consider in connection with that four and a half years that there are a certain number of times that the same piece of station apparatus will be re-used. I estimate that there will be an original installation and three re-uses of station apparatus. I arrived at that estimate of three re-uses by analyzing the salvage experience over a long period of years, in order to determine how much junking had occurred of

3309 apparatus, which, in turn, was for the purpose of determining how long a period was required to represent the complete junking of all of the apparatus in service at some earlier period, similar to the turnover cycle method study. The result of that analysis indicated about nineteen years, as I recall it. There was a slight tendency downward in the last band or two. We then examined the rate of junking, just as in our turnover cycle study, we determined the rate of retirement, and we found that there was some increasing tendency in the rate of junking which would indicate that a shorter over-all life was occurring, there was a tendency toward it, and while we estimated that it would only affect the actual experience to the extent of reducing that from 19

to 18 years, I am now of the opinion that it would perhaps be somewhat more severe than that. At any rate, our conclusions based on that form of analysis were that the total experience from the cradle to the grave, as you might say, for station apparatus was 18 years, during which the apparatus would, on the average, experience four service lives, which means three re-uses, before final junking.

I have never made a separate study for the telephone instruments, the receiver, transmitter and induction coil. In 1928, when the telephone instruments were purchased from the American Telephone and Telegraph Company by the Illinois Bell, they were placed in the station apparatus account, and thereafter we used the life figure for station apparatus account to include the telephone instruments as well. We merely used the normal life and salvage expectancy for the total station apparatus account, including those instruments. We show for salvage the 70 per cent average salvage, but we show on ultimate retirement 5 per cent salvage for station apparatus. That 5 per cent was based upon a study. I think I have already shown these studies to defendants. I have shown everything that I could to the defendants regarding my studies on station apparatus. That is, all that we used in connection with our establishment of the rate.

"Mr. Goldstein: We now desire to enter our objection to the offer of Plaintiff's Exhibits A-125 to A-129, both inclusive, on the same grounds as stated in support of defendants' motion to strike all of Mr. Turner's testimony, which motion was made yesterday at the beginning of our cross-examination of Mr. Turner.

"We object to the offer of such exhibits and move to strike Mr. Turner's testimony on the further ground that it appears from the cross-examination of Mr. Turner that the depreciation rates of expense shown by such exhibit for each of the years in controversy were so calculated and established that there was charged to operating expense each year an amount to take care of the cost of displacing property not installed or a part of the plant in the year that the expense item was charged.

"We further object as to the portion of the said exhibit covering the years prior to 1928, because it appears that the witness does not have knowledge of the facts and cir
3312 cumstances relating to the establishment of depreciation rates which the Company used as a basis for its depreciation expenses and charges charged to operating expense. We renew our motion to strike all of Mr. Turner's testimony on the same grounds as stated yesterday as to the motion to strike his direct testimony.

"Judge Wilkerson: Have you anything to say about that, Mr. Braeelen?

"Mr. Braeelen: No.

"Judge Wilkerson: Overruled."

Re direct Examination by Mr. Braeelen.

When I stated a moment ago to counsel, in answer to his question, that I showed the representatives of the City all of the data that I could, I meant that I had available everything that I had used and showed them all they indicated they desired to examine. For instance, some of the data is in the form of price lists that are furnished us by our pricing department. If Mr. Goldstein would care to go back into the pricing department to find out how they analyzed
3313 prices, why, that is something that I haven't got in my department, and he would have to investigate that further. But we have the facts that are the basis of the Company's normal business computations and activities in our office and those have all been shown to Mr. Goldstein's representatives.

In the course of my cross-examination, I stated that I received certain instructions from the American Telephone and Telegraph Company in reference to my work of finding service life and salvage and determining depreciation rates since I took charge of that matter for the plaintiff in 1928. They were not instructions to follow any process of analyzing life and salvage. They were merely instructions as to what constituted the methods of analyzing life and salvage should

it be desired to follow those methods. They consisted of an
outline of how to proceed in following certain methods
3314 of making these analyses. One or more of the pamphlets
that I have, showed how data might be most easily accu-
mulated as to placing and retirement dates, and then as to
how the mortality method might be applied to the resulting
historical data. Another one indicated what processes would
be followed in developing turnover cycle methods of analysis,
and processes of making adjustments for the effect of growth.
In my testimony on direct examination as well as on cross-
examination, and in my exhibits, I have explained how I made
use of those methods and other methods to which I have
referred in doing my work of determining the depreciation
rate to be applied by the Company.

Page 5 of Exhibit A 128 relates to the equipment in the
Kedzie central office, and, as I testified before, the figures on
that exhibit are the actual figures, the true historical
3315 data for that office from 1906, when it was first estab-
lished, down to the end of the year 1929. That was an
exhibit prepared, as its caption shows, to illustrate the effect
of additions to central office equipment upon the average life
of the equipment, the matter about which Mr. Goldstein has
cross-examined me at great length yesterday and today.

The average life of the equipment in this office found by
the method that the Company followed, and to which I have
testified this morning, is in accordance with the system of
accounts that covers our accounting and is shown at the foot
of column 7 as 12.61 years.

For the purpose of this discussion, I will confine my con-
sideration to service life, as Mr. Goldstein did in his cross-
examination.

The average life of 12.61 years for the Kedzie office equip-
ment gives a depreciation rate, an annual depreciation
3316 rate of 7.95 per cent. That means that the Company
throughout the history of this office would apply a rate
of 7.95 to the actual book investment from the original instal-
lation of the office until its final retirement, which is set here
for the year 1936. In other words, when I have testified

heretofore that the straight line method of depreciation accounting, prescribed by both the Interstate Commerce Commission and the Illinois Commission and followed throughout this period by the Company, results in distributing the net cost of the investment evenly throughout the years of the average life of the property, from original installation to retirement, I have meant by that that an even rate per cent is applied to the investment as it exists from year to year.

So that in 1906, with an investment in this office in that first year of $69,000, using round figures, the strict theoretically exact application of the method would result in the application of 7.9 per cent (of course we derive that by disregarding the salvage for our discussion here) would
3317 be to apply that rate to the $69,000 of investment, deriving directly the sum of money to be charged on the Company's books during the year 1906, or, to be more accurate, during half of that year, that being the first year. Actually the charges are spread monthly in practice. Then, the same rate of 7.9 per cent would be applied continuously as the investment in that office grows year by year, so that in 1907, when an additional investment of $14,000 was made,—and I say "was made", this being the actual fact—the same rate would be applied to that investment. That would continue all the way through the life of this office, so that throughout the period of time that this Kedzie central office was furnishing telephone service to the people in Chicago, the Company would be charging as expense on account of that office for annual depreciation the same identical percentage of the dollars of investment from first to last, so
3318 the burden of the cost of service as represented by depreciation expense would be distributed evenly and equally at the same rate throughout the life of the office.

These items of additional dollars of investment subsequent to the initial investment in 1906 represent money spent for additional equipment required to provide the necessary facilities to subscribers that were added to that exchange and for the purpose of permitting us to continue the office in service.

I testified in my direct examination that the engineering of these central offices is illustrated in its general aspect by this particular exhibit, the facts, of course, varying for the 3319 different conditions in different central office areas.

That is, in this case the Company established the Kedzie office in a residential district in Chicago. At that time an investment of $69,000 in central office equipment was all that was necessary to serve the telephone subscribers in that central office area. I testified that the Company in its engineering adopts what it deems to be the most economical plan as to the amount of original equipment it will put in and when it will add extensions to the office to take care of growth, and this office grew from an investment of $69,000 in 1906 to one million and a half dollars at the time of retirement scheduled for 1936.

To get at the actual growth of that office to this present date, the year 1932, we would have to subtract the additions appearing here for part of the year 1932 and for the 3320 years 1933, 1934, 1935 and 1936. We would have an office representing an investment of about $1,300,000 at the present time.

With reference to the original installation of $69,000, if the first addition made to take care of growth had not been made, the result would have been that the office would have been retired because of inadequacy, or else another office would have been built in the immediate vicinity and this office continued in service. The latter, of course, would be entirely uneconomical and impractical, so that the addition would have to be made from any sound engineering view. The point is that these additions must be made to avoid the necessity of retiring that office, and it was engineered on that basis from the beginning. If we indulge the assumption for 3321 the purpose of testing the theory here that the original investment of $69,000 is made and the office is not added to the next year, it follows from what I have said that we have a service life of one year for that office; it is outgrown at the end of the year.

The depreciation rate applicable to that investment under

those conditions would be 100 per cent. That is to say, the whole investment being retired in one year, we charge it all during the year. That neglects salvage, of course, as we are neglecting it throughout this discussion.

Now, assume that the office is going to be kept in service by adding to it, as was done throughout this period of the past 26 years and as my exhibit proposes to do during the next 3 or 4 years, we get an over-all life of 30 years.

3322 On the basis of the additions to be made subsequent to 1906, which would permit the continued use of the property involved in 1906, that property would have a life of 30½ years on the basis of excluding interim retirements. In other words, the property placed in 1906 would continue in use, under this assumption, until the end of 1936, a period of 30½ years. The depreciation rate for that specific increment of equipment would be 3.3 per cent annually.

The addition to the office made in the second year (1907), which is $14,000, being placed one year later, would have a remaining life of 29½ years, which would require a de-

3323 preciation rate of 3.4 per cent annually. The investment of $39,000 in 1908, being placed two years later, would have a remaining life of 28½ years, and an annual depreciation rate of 3.5 per cent. For the next year, 1909, the life becomes 27½ years and the rate 3.6 per cent. In 1910, 3.8 per cent; 1911, 3.9 per cent.

The rate that I have given for each of these years is, of course, the rate applicable to the additional investment simply of that year.

Going on down now to the year 1931, the last year, still assuming that this office is going to be retired in 1936, according to the Company's best forecast: the addition of $51,100 in 1931 would have a remaining life of 5½ years, until the end of 1936, which would require a depreciation rate for that particular part of the investment of 18.2 per cent. In

3324 1932 the addition of $50,000 would have a remainnig life of 4½ years and a depreciation rate of 22.2. In 1933 the addition of $54,000 would have a remaining life of 3½ years and a depreciation rate of 28½ per cent. In 1934, the $51,000

addition would have a life of 2½ years and a depreciation rate of 40 per cent. In 1935, an addition of approximately $40,000 would have a life of 1½ years and a depreciation rate of 67½ per cent. An addition of $37,000 in 1936 would have a life of ½ year, a depreciation rate of 200 per cent. That is to say, in the last year of this Kedzie office, against an addition necessary to keep it in service of $37,000, the Company, upon the method of depreciation accounting underlying the cross-examination, would have to charge to expenses in half of that year the entire investment.

Going back now: in the year 1935, the Company having made an addition to the office of nearly $40,000, the Company would by that method have to charge to the expenses of that year 67½ per cent of that entire investment of $40,000.

3325 In 1934, upon the investment of $50,000 for additions and extensions to the office, the Company would have to charge as expense 40 per cent of that $50,000 invested in that year. The 40 per cent depreciation rate applicable to the additional investment of $51,000 made in 1934 continues to apply during the year 1935 and the year 1936.

At the present time, in 1932, using the Company's method and deriving the rate solely from the consideration of average life, we get, as I have already said, a rate of 7.95 per cent. That rate of 7.95 per cent compares with a rate which would be obtained as of this same year by the applica-

3326 tion of City's theory, of 8.7 per cent, representing an average life of 11½ years. In other words, during this present year the City's method would result in a charge to expense this year of 8.7 per cent of the investment, as against a charge by the Company's method of 7.9 per cent of the investment. For the year 1933 the average life would be 10½ years and the depreciation rate 9½ per cent, as contrasted with the rate of 7.9 by the Company's method, which rate applies evenly all through the life of the office. For the year 1934 the average life would be 9½ years and the depreciation rate 10½ per cent. For 1935 the average life would be 8.2 years and the depreciation rate would be 12.2 per cent. For the year

1936 the average life would be 6 years and the depreciation rate 16.7 per cent.

By the Company's method of computing the depreci-
3327 ation rate for each of the years, specifically now for the year 1932, upon the basis of keeping that office in service, extending its life by making additions to it, the present telephone subscribers, and those who will be telephone subscribers until the office is retired, are paying rates which, in a case of the character of this case, a confiscation case, reflect an expense of 7.9 per cent evenly, as against the corresponding figures which I gave, beginning in this year with 8.7 per cent and increasing to 16.7 per cent.

3328 The small sums for interim retirements, such as shown in column 2, page 5 of the exhibit that we have just been examining, are small retirements associated with the necessary rearrangements of an office when additions are made to it. They are usually very small. They are based on what experience has shown to be incident to adding to an office.

Counsel asked me on cross-examination whether it was not true that less facts were relied upon and greater reliance was placed upon judgment in determining service lives in the period of years prior to 1928 and 1929 than in the period
3329 since I took charge of this work of determining depreciation rates. My testimony in that respect had reference to this: that I think throughout all of these periods that we have under discussion, the facts relating to the influences upon life and salvage were equally available, but in the earlier studies the methods in regard to some classes of property did not develop the average life to the extent that the later methods have done, so that a somewhat greater exercise of judgment was necessary in arriving at conclusions in the earlier years of this entire period, judgment relating to the analysis of actual experience and not to the factors affecting life. The mortality studies represent an improvement over the predecessor types of study.

3330 Concerning the pamphlets and such other things that I received from the American Telephone and Telegraph

Company, I testified that I employed the principles set forth in those instructions with some local variation. In so far as the American Telephone and Telegraph Company sent us pamphlets setting forth the principles of the mortality method of life analysis, we did not apply any local variations to those. We adhered strictly to the principles enumerated in the outlines of procedure submitted to us by the American Telephone and Telegraph Company. When I referred to local variations, I meant that in working out the fundamental principles as forming the basis for the method, if some condition here would require us to change the method of the resulting application, we might follow that. To take a very simple case, for example instructions regarding the best procedure known at the time to accumulate data for mortality studies.

3331 Now, that, of course, might vary in this Company from any general procedure that could be prescribed; that is, our records, certain of our basic records might differ to some extent and make it advisable for us to modify the procedure to accord with the information we have here in this Company. Fundamentally there was no change whatever in any of the principles forwarded to us by the American Telephone and Telegraph Company.

In connection with my work since I took charge of the matter of determining depreciation rates, I have also gone back and studied the life and salvage experience of the Company during the entire period of years involved in this case, 1923 to 1927 (which brings us down to 1928, when I took charge), in so far as the Chicago area is concerned. Based on a retrospective view of the actual experience as to life and salvage developed from our present methods and the conclusions which I would draw from that information and from all other factors ascertainable, I am of the opinion that the depreciation charges for the period 1923 to 1927, inclu-

3332 sive, were slightly less than they should have been. There was a slight under-accrual, as I determined, based on methods that I have employed and the data for those years, as against the actual charges made. Those actual charges

are the amounts that have been shown and are being shown for the expense of depreciation in this case, as I understand it.

(All exhibits identified by Mr. Turner offered in evidence. Ruling reserved until close of re-cross examination.)

Re-cross Examination by Mr. Goldstein.

3333 I justify the plan whereby we spread these charges, which include also the future additions, equally over the entire life of the original construction to its end, on the ground that the subscribers get the benefit in the later years, because they would otherwise have had to pay a much larger depreciation rate in that year on that particular office.

"Q. Well, now, haven't you overlooked the actual experience of the Company in that each time the subscriber living at the end of the life of an old office, gets the benefit of your practice he starts to pay on the future additions of a new office that is being built during that year or during that period? Have you taken that fact into account?

"A. No, he doesn't."

Turning to page 5 of Exhibit A-128 (the one regarding the Kedzie office), the subscriber, beginning with 1926, would be getting a benefit through our method, because from 1926 to 1936 the additions would have to be retired in a shorter period than the original construction, and, therefore, he would be paying more on that new construction.

"Q. And if you took that office alone and considered that was the only office there was then, of course, that would be true in your theory. But in 1926 we had the Merrimac Building constructed as shown in D-119 and D-120; in your Merrimac office you started to depreciate in 1926 not only the $378,000 you put in in 1926 but the $2,000,000 you expected to put in by 1984. Now did you take into account the additional contribution that this subscriber would have to make towards the future additions for the next fifty years when you said he had the benefit out of this office?"

3334 Of course, our problem is broader than just for the city of Chicago; we have numerous exchanges outside

of Chicago that have but a single office, and there you would get this inequitable condition that I spoke of. I mean by "inequitable" that it would place a burden on the subscribers attached to the office towards the end of its over-all life. Even in the city of Chicago the situation resulting from the consideration of future additions would not necessarily
3335 equalize the condition unless it so happened that at a particular time the new offices, with their lower depreciation rate, would exactly offset the older offices with their higher depreciation rates.

With reference to this Kedzie office, I said if we took the additions from 1926 to 1936 and treated them alone, we would have a higher rate. In a growing company like the Chicago area of the Illinois Bell, in those years we would also have new offices, and those new offices, being for a very long life, such as Kedzie, if we treated that new construction we would have a much lower rate on the Merrimac new construction than we would have on the additions in Kedzie. I have in mind the fact that simultaneously while the additions in the old office would go along on this unit theory, there would also be units that would have a 50 year life that would come
3336 in at the same time, but I would not make the statement that such new units would neutralize the effect that I was talking about with respect to Kedzie. I considered that in connection with my calculations given on re-direct, and I considered the fact that most of our offices in Chicago are in the later stages of over-all life, and, for that reason, I would be of the opinion, I have no figures to support this, but I would be of the opinion that it is quite likely the composite effect would be a higher rate than the one we are using.

In my discussion in my re-direct examination concerning the life and the per cent of depreciation that would have to be charged on these additions to the Kedzie office in the later years of its life, I did not take into account the new construction of any other office, or the existence of any other office in the city of Chicago; I was just speaking of the Kedzie office.

In 1906 there was $69,000 of initial construction for the
3337 Kedzie office. That was to last 30 years, and the depreciation rate would be 3.3 per cent. On the composite rate it would be 7.95 per cent in 1906. The purpose of that accumulation of the difference between 3.3 per cent and 7.95 per cent was to use an equitable uniform rate of depreciation throughout the entire over-all life experience, so that no particular group of subscribers would be burdened by undue charges.

It would take 30 years to have accumulated the money to cover the initial investment on the basis of 3.3 per cent. On the basis of 7 per cent, it would take 12 years to accumulate the same investment for which we estimated a life of 30 years if all of that money was to retire the investment
3338 put in in 1906. The method we use, the application of a higher rate to the first addition, necessarily starts the provision for subsequent additions. When we base our rate on the basis of 7 per cent instead of 3 per cent, part of that 7 per cent was to accumulate for the future additions.

3339 I would not say that the principle that I use in group I is specifically stated in the rules of the Interstate Commerce Commission but from their instructions I think they may have had that in mind.

The purpose of the expense of depreciation under the rules of the Interstate Commerce Commission is to accrue the original investment, less the net salvage expected at retirement, over the entire life of the property.

My understanding of the rules of the Interstate Commerce Commission is as follows:

> "Telephone companies should include in operating expenses depreciation charges for the purpose of creating proper and adequate reserves to cover the expenses of depreciation currently accruing in the tangible fixed capital." (Extract from rules.)

I have an interpretation as to what they mean there.

"Q. What do you understand by 'current accruing depreciation'? Can you have a currently accruing depreciation in property that is not yet to come into being in fifty years?"

Under the group basis we are considering a central office equipment installation, and under that method of deal-
3340 ing with property on a unit basis, that is, considering the group a unit, I think you could interpret their rules to permit of that. As a matter of fact, I am of the opinion that the Interstate Commerce Commission in its new order on depreciation has interpretated it that way itself.

"Q. The next part of that sentence says: 'currently accruing in the tangible fixed capital'. Do you construe that to mean tangible fixed capital as shown on the books of the Company or does it include tangible fixed capital as shown in the books of the Company plus tangible fixed capital that you expect within fifty years to put in the books of the Company?"

I would take that to mean the tangible fixed capital involved in any unit of property, the logical grouping of property for depreciation purposes. It is my understanding that the rules of the Interstate Commerce Commission refer to accruing depreciation to recover parts of the investment other than that shown on the books of the Company. I interpret that, as I stated, to mean that as the Commission prescribed that this matter of depreciation may accord with the rule of the Company, that we may include future additions to a present unit of property. I do not believe that we can, under
3341 any interpretation, set up anything for a new building yet to be started, or a new equipment installation yet to be started, but I do believe that where the group basis is the most equitable, as we see it, and the most practical and logical, the Interstate Commerce Commission would probably interpret its own rules to include those additions to the existing units of property.

I would not construe the rules to permit us to start a new building 50 years from now to cost a million and a half dollars, nor to start a new building that is to be built next year. We cannot accrue the depreciation now to cover such new building.

3342 I did not state that I determine the rate from the present investment. I determine the rate from the over-all experience of the property, which may include some future

additions. It does, as a matter of fact, in all cases. Then the rate applied to the present investment gives the dollars not only to recover the present investment, but also to recover a part of the future investment of that particular group.

3343 If a building is filled up, we may add to it, or we may, for certain economical or other reasons, retire it by replacement with another building. We couldn't economically build a new building in substitution for these cases where we propose additions, because if we could do that economically we would not propose additions.

Both things happen in smaller communities, and both

3344 things happen in a big city.

I have taken into account the fact that at the same time that we would have the higher rates of depreciation on older buildings, we would have some compensating effect from new buildings for which there was a low rate applying at the same time.

In the case of the Merrimac Building, we would start off in 1926 to accumulate money to reimburse ourselves in 1984 for the depreciation that would accrue on the additions from

3345 1974 to 1984, plus the reimbursement required for interim retirements during the period.

I did not take into account in those calculations the fact that from 1926 to 1974, when we did not have any investment and the depreciation did not start to accrue, the moneys that we are starting to accumulate would be invested in plant and would earn an income.

3346 We engineer an office in such a manner that we can provide for growth over a considerable period of years in the future by making additions to the initial installation. The Merrimac Building would be engineered in 1926 to provide these additions to 1984. In connection with that engineering, and in connection with the placing of that plant, there would be a cost study developed to determine the advisability of putting in that building.

"Q. And in that cost study to determine the advisability of that building, the earnings contemplated come from that building until the end of its life would be taken into account, would they not?"

In that cost study it is necessary for us to consider
3347 the interest involved in determining the present worth of future expenditures, in order to determine the comparative economies of items to be constructed at different intervals in the future. By the expression "the present worth of future additions", I mean that if we were to add in 1974 $100,000, we figure what the present worth is, taking into account that during the period to 1974 there would be an interest factor.

Subsequently to my taking charge of this subject mat-
3348 ter, I made up a set of rates which, in my judgment, would have been reasonable and logical rates of depreciation to be used in the years 1923 to 1927, which checked the rates actually used. That was based on a retrospective view, as you might say, through the analysis of past experience during those years and prior to those years, utilizing our present methods of analyzing that experience. That study was made several months ago.

(Witness agreed to make available for defendants' examination papers showing the basis of this study.)

Re-direct Examination by Mr. Bracelen.

Page 9 of Exhibit A-128 shows two groups of buildings, a
larger group of buildings occupying the upper part of
3349 the sheet, and the smaller group, that is, ten buildings, the lower part. Those are central office buildings of the Company in Chicago. The upper group consists of those buildings which we expect to retire, abandon or wreck, whatever may be necessary to eliminate them from our operating service, at the time of converting the equipment to dial operation. Those in the lower group are buildings which we consider suitable for continued use in dial operation. In other words, the upper group of buildings are buildings whose life cannot be extended by additions. The lower group comprises buildings whose life can be and will be extended by additions.

The average life of the buildings in the upper group is
3350 18.1 years. The average life of those in the lower group is 36.6 years. The lower group, that is, the buildings that will have additions and a lengthened life as a result thereof, will have a depreciation rate of approximately one-half that of the other group of buildings.

3353 CHARLES A. HEISS, called as a witness on behalf of the plaintiff, having been previously duly sworn, thereupon resumed the stand and further testified as follows:

Re-cross Examination by Mr. Goldstein.

May 27, 1932.

"Q. Mr. Heiss, will you explain where in A-198 you
3354 deduct any portion of the costs in an amount equivalent to the item which you showed in D-116—that is Heiss' Exhibit 10 in the Ohio case, which we have offered here—and also in the sheet, page 2 attached to 116, which you sent to us in March of this year, which shows a deduction for 1931 from the expenses allocable to holding company operations for 1931, $2,500,000; 1923, $1,000,000; 1924, $1,200,000; 1925, $1,400,000; 1926, $1,600,000; 1927, $1,800,000; 1928, $2,000,000; 1929, $2,250,000; 1930, $2,500,000; and 1931, $2,500,000.

"Where do you account for that deduction in your latest exhibit, A-198?

"A. Well, Mr. Goldstein, I made those deductions that you have read in the Ohio case, and I also made them in the Michigan case.

"Now to understand fully what was done, I think I must say a few words in explanation of the reason for those deductions."

I also made them two months ago when a letter, dated March 17, 1932, signed by Mr. Bracelen, was sent defendants, in which was estimated the costs incurred in rendering the

license contract services for 1931, and the sheet that we sent
. . . is the second sheet attached to D-116, and shows a deduc-
3355 tion of $2,500,000. Now, on the 1931 exhibit I might say
that that was sent to defendants to be comparable with
the exhibits that they had previously received that were introduced in the Ohio case.

Now, the situation was this: the Supreme Court's opinion was handed down, I believe, in about December, 1930. The Ohio case was pending, and we were asked to go at this matter of license contract costs from an entirely new angle, an approach different from anything that we had previously been asked to consider, or had in consideration, and I was given the task of working out the costs. I was under very heavy pressure, and, in order to get the task done for April and May in the Ohio case, it was necessary for me to go to the different department heads and discuss with them their costs generally, to have them give me certain facts which they had which would help me to analyze those costs, so that, after I had all of these facts together, I could set up an exhibit
which was a conservative statement of our costs.

3356 Now, I appreciated in setting up this exhibit in the Ohio case that there were deductions that should be made. The whole matter of appraising the deductions was a strange one, was an unfamiliar one to our department heads, and the task of making the proper deductions, or of making a deduction from our departmental costs, was put up squarely to me. Now, after I had set down the costs of the different departments and had taken out certain specific items of cost, I then said, "To make the Ohio statement conservative, I am going to deduct at the foot $1,000,000 for 1923", and I stepped the amounts up to $2,500,000 in 1930 and later. I used the same figure for 1931. I did that with the view of making whatever statement of costs I presented a conservative one, and I said in the Ohio case, in the Michigan case, and in any other case that I testified in, that I had the basis of this deduction and why I had made it, and I further stated that I could not, with my knowledge of the business, find enough things that, in my opinion, should be deducted to make up the amount; that the

amounts that actually should be deducted were very much less than I had taken out, but I took out the large
3357 amounts in the interest of conservative statements.

Now, in preparing for this present case we had a little more time to consider the matter, and we went back and had each department study the problem very much more carefully than before, and we had each of the major departments make their own deductions. For example, Dr. Jewett testified here as to what deductions should be made from his department, to take out the non-license item; Mr. Gherardi testified as to his department, and said nothing should be taken out; Mr. Page testified, and took out an amount for his department; and Mr. Bracelen took out an amount for his department, according to my testimony. The figures which I took out for the Legal Department were figures which Mr. Bracelen definitely gave me. Now, when I came to the other departments, I took out certain direct expenses, and in addition I took out 5 per cent of the costs, in order that I might from any viewpoint, any reasonable viewpoint, make the proper eliminations.

Now those deductions—the sum of the deductions by Dr. Jewett, by Mr. Page, by Mr. Carter, for the Personnel
3358 Department, and for the Legal Department, and those which I made for the President's office and for my own and for the Treasurer, all total up, taken together, to the deductions shown in Exhibit A-170, and they are less than the amounts that I deducted in Ohio and which are contained in the figures which you have for Ohio.

"Q. In March;—in September, 1931, Mr. Heiss, you sent the defendants in this case a statement showing the revenues and the expenses, and the assets of the entire company, and the distribution between the license contract, Long Lines, and the holding company, is that correct?

"A. Based on the exhibits which I had made in Ohio—

"Q. Yes.

"A. (Continuing) —and still based on the exhibits I had made in Ohio.

"Q. And those exhibits in Ohio were intended to be the substance of the exhibits in this case, were they not—

"A. That is a matter—

"Q. —at this hearing.

"A. That is a matter that the lawyers will have to answer.

"Q. You do not know what purpose the exhibits and the testimony in the Ohio case were furnished to the defendants for, do you?".

3359 What I know is this; that I made up the exhibits in the Ohio case, and I stated to Mr. Goldstein the basis on which they were prepared. I was told that they were being sent to defendants and my work on the preparation of the definite exhibits going into this case was not completed until I came to Chicago, and for this case I prepared the exhibits which I have introduced in this case; the Ohio exhibits, so far as I am concerned, were prepared on the Ohio case; and the analysis that I sent defendants of the balance sheets and of the earnings, everything broken down according to the Interstate Commerce Commission, was based entirely on defendants' request to have the exhibit in the Ohio case broken down.

I testified in Ohio that in making my figures and estimates as a basis for Ohio Exhibit 10, Heiss' Exhibit 10 which is D-116, I proceeded not only from my own knowledge 3360 but after consultation with the heads of the various departments, such as Department of Development and Research, Department of Operation and Engineering etc., and that is just what I said here. I went to the departments and got all of the information I could get from them, and after I had all of the information I could get from the departments, I had to take the data and on my own responsibility finally bring the amounts together in an exhibit which I presented in the Ohio case, and in that case I deducted the empirical amounts, because I wanted the exhibit to be conservative.

The item that I defined in Ohio was: "Deduct from Indirect Costs Estimated Amount of Corporate Expenses Attributable to Ownership of System Securities and Related Expenses."

That is the item that is contained in the exhibit which
3361 I sent to defendants on March 17, 1932, and those same elements are in the deductions which I have made in this case. In March, 1932, when I prepared and sent that exhibit to defendants, I felt that the $2,500,000 was excessive. I sent it to have my exhibit comparable with my Ohio exhibits, and I expected at that time that the attorneys preparing the case for the City of Chicago might wish to have that amount analyzed, and instead of showing an empirical amount as I show to make the exhibit conservative, the attorneys would certainly want to have the deductions exact, because there would be no occasion for our giving away a million or so if there was nothing for which the deduction should be made.

3362 In the Ohio case, I was asked the following questions by Mr. Thompson and made the following answers:

"Question: Do you mean, Mr. Heiss, that from these indirect costs ascertainted by you for each of the years in question, you have deducted an estimated amount for corporate expenses attributable to ownership of system securities and related expenses?

"Answer: I have, and I will explain my basis for that.

"Question: I wish you would do that, please.

"Answer: Now on the other hand, some part of the costs of these various financial undertakings may reasonably be considered as incurred in a strictly holding company capacity. On this assumption, the indirect costs, as set forth in the statement, including as they do costs of a joint character, must be apportioned between those which should be assigned as part of the cost of performing license contract service, and those on the other hand which should be excluded because they are a cost of conducting financial activities in a holding company capacity. Such apportionment because of the inter-
related character of the activities must of necessity be
3363 based on an estimate, and on reasoned judgment, and in the figures which follow in this statement an allocation has been made on that basis.

"Question: Does this amount of $1,000,000 which you have

deducted from Indirect Expenses represent in your judgment and opinion a fair and just amount of the cost of the activities of that company for the year 1923, not attributable to rendering the license contract service, after you have excluded the Long Lines expenses?

"Answer: Yes; this amount, based on my knowledge of the business of the American Company, this amount of $1,000,000 for the year 1923, is fully adequate.

3364 "'Fully adequate'—I do not say it represented the amount; I said, if was 'fully adequate'.

"—to cover these non-license contract activities, and even somewhat larger than the facts warrant."

Then I go on to say:

"We have of course in addition excluded from the statement the cost of expenses incident to other non-telephone activities."

And there is another statement here that should be taken into consideration.

"Now the American Company after excluding its Long Lines' activities, obviously exists primarily for the performance of what I have described as major activities, namely, the rendition of services to the companies having license contracts, and to this activity should be assigned its proportionate share of the cost of maintaining the general corporate structure necessary to such existence. There should likewise be set forth under license contract costs as definitely incurred in that field, a reasonable part or portion of the expenditures incurred by the company in its various financial activities, which materially enhance the scope and quality of
3365 the service which we render under the license contract. The financial activities of the company being distinctly related—are in fact indispensable to the complete performance of the license contract services, and from every standpoint they materially supplement and improve the character and the scope of the service which we render under these contracts. Any statement of costs incurred

in rendering these license contract services must therefore in my opinion include a substantial part of the costs of the several financial activities just enumerated, as well as its pro rata part of the cost of maintaining a general corporate organization of the company."

Now it is on that basis that my Ohio statement was built.

3366 In the 1931 dividends received by the American Company on the permanent investments in securities were $139,443,081, and that would include the Western Electric Company.

"Q. Yes, and your disbursements applicable to that $139,000,000 were $117,000,000 in the form of dividends and interest to the stockholders, and the holders of credit obligations of the American Telephone and Telegraph Company, is that correct?

"A. That is the amount that I apportioned—of dividends and interest, that I apportioned against dividends,

3367 but that is not all that I have excluded."

I simply say on A-198 that we received so much for license revenue and our costs are so much, and the difference for 1930 is a little in excess of $11,000,000; that is, our revenues were $11,000,000 odd less than our expenses. With an earning of $139,000,000 from our holding company op-

3368 erations, which was used to the extent of $117,000,000 to pay dividends, and with a total income, as shown on A-198, from our license contract operations of $15,000,000, which would show a loss of $11,000,000, I am still of the opinion that the license contract operations have been the major activity of the American Telephone and Telegraph Company in 1930 and 1931, and the holding company operation was incidental, because the holding of the securities of our license companies is an incidental activity in connection with the renditon of the license contract service. The purpose of holding those securities is to provide a better basis for raising the many millions of dollars we need in the business, and I say it is a help, it helps to that end very materially. I said, a

3369 few days ago, that while the American Company might

be termed a holding company, it is not a holding company in the ordinary sense that one speaks of a holding company. Go back to the beginning of the business; the American Company (I am now speaking of the American Bell, the predecessor company) licensed the companies under its patents and, at the same time, it found that it was necessary to finance the companies.

3370 In line 1-H of Exhibit A-170, you will find a deduction for holding company operations. I want to make an explanation about the $750,000 for the year 1931 on this line 1-H. This sum is net after I excluded therefrom a large amount of cost incident to holding funds available. If

3371 you will turn back to the exhibit for the year before, it gives a better picture. For the year 1930, the deduction for non-license expense is $1,152,350. As Comptroller of the American Company, I cannot, under any stretch of my imagination, make myself believe that we need to spend any such sum of money to do our corporate activities today; that is, our strictly corporate work not related to license companies and our work in connection with the Electrical Research Products Company, or any non-Bell activity; I cannot understand how we could spend $1,150,000. Even the $1,152,000, in my

3372 judgment, is too high. When I estimated $2,500,000 before, it was too high, because I have excluded expenses in my own department that I do not have any justification for excluding, because the amounts that I excluded for the Comptroller's Department in relation to the work that I do are clearly out of proportion, but I did it in the interests of conservatism.

The $361,000 for the year 1923 in line E of Exhibit A-200 is the balance remaining from the license contract serv-

3373 ice for the Chicago area after deducting the average cost to the American Company of holding money available for the Chicago area and also deducting a return on the American Company's investment in the telephone instruments in the Chicago area. I assume, in setting them up, that we are entitled to just as fair a return as the Chicago property is entitled to.

3374 Line E of Exhibit A-198 corresponds to line E of A-200, except in respect of one thing, which is explained, and that is that line E on A-198 is after taking consideration of the costs of temporary financing. Now, when we come to A-200, we state definitely that we have not included any of the costs of temporary financing in the Chicago area. It is a cost to the American Company, but I just did not feel it conservative to allocate it to Chicago.

3375 Line E in Exhibit A-198 in each case represents that amount of money which is left over out of the license payments after the American Telephone and Telegraph Company has taken care of all the expenses and has allowed itself an amount equal to the annual charges on carrying the investment, taken on the assumption that the American
3376 Telephone and Telegraph Company is a contracting party and is entitled to make a fair contract with the associate companies, and a fair profit therefrom. The American Company would get the revenues shown on line A. There is no profit in this. Line B shows the actual expenses incurred according to Exhibit A-170. Now Exhibit A-170 has in it, so far as the American Company is concerned, all of our costs of holding funds available.

"Q. Mr. Heiss, does it also include all the costs of holding the investment in telephone instruments—A-170?"

Exhibit A-170 does not give consideration to item D-1 and item D-2 on Exhibit A-198, except that A-170 does include the book investment less depreciation reserve multiplied by the average rate to find the average cost of funds used in the business. In other words, line B shows the very minimum figure for the cost of instruments that we could include. Now in D-2 I approach it from the point of view of what is a fair allowance, and I say right in that caption, "Less amounts already included in item B above (the costs shown on Exhibit A-17)". In other words, in D-2 I am only claiming the excess between the very minimum charges that I could make
3378 on instruments, and what I could claim for instruments on basis of a fair return plus expenses.

3379 EDWARD E. BROWN, called as a witness on behalf of the plaintiff, having been first duly sworn, testified as follows:

Direct Examination by Mr. Blackman.

May 27, 1932.

My full name is Edward E. Brown. I am Vice President of the First National Bank of Chicago and the First Union Trust and Savings Bank. I have been Vice President of the First National Bank of Chicago for twelve years, and Vice President of the First Union Trust and Savings Bank for five or six years. Prior to that time I was General Counsel for both banks for approximately ten years. I was a salaried employee of the First National Bank and First Union Trust and Savings Bank since 1910.

The First National Bank of Chicago has deposits today of around $460,000,000, and the First Union Trust and Sav-
3380 ings Bank has deposits of around $200,000,000. On the last published statement of the First National Bank and the First Union Savings Bank, it was somewhat smaller than the Continental-Illinois Bank and Trust Company. I think it is approximately as large as the Continental today. I think there is only one other bank west of New York City that is as large as, or larger than the First National Bank of Chicago and the First Union Trust and Savings Bank combined.

In my capacity as an officer of that bank I have had to do with securities of various kinds. I am what is called a General Vice President of both banks, ranking officially immediately under the President of both banks. For a number of years I have had direct supervision of the division of the First National Bank which makes loans to stockbrokers, bond dealers, and security houses, and, in the case of the First Union Trust Company, for a number of years part of our or-
ganization, the officers of the Bond Department are sup-
3381 posed to consult me before making any commitments on the purchase or underwriting of securities. I am also

Vice President and Director of the First Chicago Corporation, which, from time to time, has underwritten stock issues of various corporations, and I am on the Executive Committee of the First Chicago Corporation.

I have been familiar with the principal underwritings in the city of Chicago for the last ten years and the prices at which the securities were sold to the public and the prices which the corporations obtained. In a general way I am familiar with the market prices of the principal securities of the country. I am familiar with the securities of the American Telephone and Telegraph Company and its subsidiaries. I am familiar with the securities of the principal utilities in Chicago, and all of the principal local companies in Chi-
3382 cago, and pretty generally with the principal utilities throughout the country.

"Mr. Blackman: Now I may say for the record we have agreed to ask Mr. Brown only one question in the interests of expedition.

"Q. Mr. Brown, have you read the testimony of Mr. Hoyt given before this court, direct and cross?

"A. I have."

I agree substantially with what he (Mr. Hoyt) said. I believe that he stated that in 1928 and 1929, as I remember his testimony, it would have been possible for a corporation to have obtained money at 7.5, or possibly 7 per cent, as against 8 per cent the years prior thereto. I think that that would be true as to those years. However, I believe that a large corporation such as the Illinois Bell, which requires additional sums of $20,000,000 to $30,000,000 per year, or has in the past few years, for construction, cannot afford to press the market too hard; it has got to sell its securities at a price to the public which will enable underwriters, dealers, and
3383 the ultimate investors under normal conditions to have a reasonable expectation of a profit, if they are to be in a position of going back year after year. I think that if the market had been pressed in 1928 or 1929, and capital obtained at as low a rate as 7 per cent, it would have meant having probably for the corporation to pay more in the latter part of 1930, 1931 and 1932.

Cross-Examination by Mr. Goldstein.

Included among the members of the Board of Directors of the First National Bank of Chicago and the First Union Trust and Savings Bank, are William Rufus Abbott, Chairman of the Board, Illinois Bell Telephone Company, and Bernard E. Sunny, Director of the Illinois Bell Telephone Company.

The Illinois Bell Telephone Company is a depositor of the First National Bank, and has been such for a great many years. I think the original Chicago Telephone Company was largely financed and owned in the early days by people connected as directors of the First National Bank of Chicago.

3384 Mr. Sunny has been a director for a good many years. Mr. Abbott was a director of the Union Trust Company, and became a director of the First National Bank of Chicago when the Union Trust Company was merged with the First National Bank of Chicago in 1929.

3385 CHARLES A. HEISS thereupon resumed the stand and further testified as follows:

Re-cross Examination (Continued) by Mr. Goldstein.

May 27, 1932.

In the following discussion of Exhibit A-170 I will concentrate on the year 1923 and the first column. The first number which it shows is Cost of Rendering Contract Service, and I have in there "Departmental". None of these costs include what it did cost the American Telephone and Telegraph Company in dividends and interest to get the capital in the performance of the service. Item (b) Instrument Maint-
3386 nance, does not include any item for that. In item (c), Taxes, there is not included an amount of dollars equal to what the American Telephone and Telegraph Company paid in interest, amortization of discount, and dividends on the funds which were used in the performance.

Item (d), amounting to $1,327,000 (Cost (Net) of Carrying Investment in Physical Property) contains an amount
3387 which is arrived at by taking the investment of the American Company used in license contract service, deducting depreciation reserve therefrom, and multiplying that amount by 6.87, the average cost of funds during the year.

"Q. And the reason why you include that is that you consider that part of the costs of furnishing the license contract service, is the expense which the American Telephone and Telegraph Company had in paying interest and dividends to its stockholders attributable to investments in that—is that it?

"A. No sir, I include it because the laborer is worthy of his hire and the American Company has put so much money at the disposal of the license company, and it is entitled in a statement of costs, such as I have built up here, to get
3388 back the cost of that, that is as a minimum.

"Q. And that cost is what it paid out in dividends and interest attributable to that investment?

"A. That is what the money cost the American Company. I do not know whether we have dividend money in here, or surplus money, or interest, or bond money."

The 6.87 which I used as a measure of that cost is arrived at by taking the total amount of dividends paid in the year, the total amount of interest paid in the year, the amortization on the discount during that year, and dividing it by the dollar investment as shown in A-164. The dollar of investment includes capital stock, surplus, premiums and bond money.

3389 It is not a fact that that item which I have in here as a cost, is part of the dollars equal to what the investors in securities of the American Telephone and Telegraph Company have taken from the American Telephone and Telegraph Company, attributable to that investment. It has nothing to do with that. It is simply what the American Company paid out in interest and dividends on the money it had from investors, but that enters into one element, one side of the picture, and the other is the total amount of money in the

business regardless of where it came from; and applying one against the other, you get your ratio of 6.87.

Exhibit A-164 shows the 6.87. That is the same figure that I use in A-170. 6.87 is the average rate which the American Telephone and Telegraph Company paid, which includes
3390 the result of paying 8.79 in dividends on capital stock.

The amounts in A-170 include the amount which I arrive at by applying the average cost of funds during the year, against the investment, and that average cost of funds is fully explained on A-164, and you there see that the average cost is the composite of capital stock, surplus, premiums and bond money.

"Q. So that you start off—so that you include in A-170, do you not, an item of cost which includes a return to the American Telephone and Telegraph Company equal to
3391 what it spent in dividends, interest and amortization, to get the capital which you say it used in the license contract services?

"A. No. You have got to include the surplus factor in there."

I have included the surplus factor in arriving at the 6.87. It is substantially correct to say that for every dollar invested in the license contract service in the year 1923, I have included as part of the cost before I arrive at my balance, an item of 6.87 (or for every one hundred dollars, $6.87) which I say is a cost, because the American Telephone and Telegraph Company had to spend $6.87 to get that $100.

Exhibit A-198, line C, shows $3,713,096 as the balance remaining for the year 1923 from license contract revenues after there has been deducted the expenses including an amount which the American Company has spent to acquire the investment as shown in A-170 at the rate of 6.87
3392 which is the bare cost of the money invested in property used in rendering the license contract service, that is (for 1923) instruments, buildings and the furniture and fixtures (less depreciation reserve).

That bare cost is the bare cost indicated in A-164, which represents 5.73 on loans from the associated companies as

part of the capital required, 5.69 on funded debt, 7.44 that was paid on capital stock installments, and 7.17 that was paid on every dollar of capital stock, capital stock premiums
3393 and surplus. It is the composite of all of those.

I arrive at item D-2, (A-198) "Fair Allowance for Telephone Instruments less costs already included in Item B above" in just the same manner that I used in developing Exhibit A-163. As I said before, these figures in A-198 show the total for the entire Bell System, whereas on Exhibit A-200 I show only the figures for the Chicago area. Now, the method was identical. I used the same method as for A-163.

The first item in Exhibit A-163 is "Average Current
3394 Cost". That is the average current cost of telephone instruments for the years 1923, 1924, 1925, 1926 and 1927, for the Chicago area. I have here a document which shows the figures I used in arriving at D-2.

(Which document was thereupon marked Defendants' Exhibit D-122 for identification.)

3395 D-122 is an instrument credit for Bell System on the basis that the American Telephone and Telegraph Company is the lessor and leases instruments to a contracting party as lessee, under the assumption stated, at the top of A-198.

"Q. Yes. Now, your figures in column B, "Costs Incurred in Rendering License Contract Services", were those costs figured on the basis of the American Telephone and Telegraph Company being on one side, and the Illinois Bell Company on the other side, or were they considered on the basis that the Illinois Bell was a department of the American Telephone and Telegraph Company, and the American Telephone and Telegraph Company owned the property?

"A. The figures in B represent just the—in so far as the instruments are concerned, represent just the bare costs of the American Company.

"Q. No, I am forgetting the instruments. I mean the other costs as shown in item B of A-198: do they represent costs on the basis that the American Telephone and Telegraph Company owns the Illinois Bell properties, and therefore these directors' fees of the American Telephone

3396 and Telegraph Company are properly chargeable or do they represent costs on the basis of contracting parties—which?

"A. Mr. Goldstein, costs are costs.

"Q. Well, but on the theory that you use in determining those costs, in justifying those costs—

"A. I have used that which a practical business man would use. We had certain costs on our books, and I collected those together in showing my license contract costs.

"Q. Did you hear Mr. Blackman state here that the theory upon which you justified the directors' fees of the American Telephone and Telegraph Company being charged to the Illinois Bell, was on this theory, that the Illinois Bell was considered a department of the American Telephone and Telegraph Company?

"A. I do not know.

"Mr. Blackman: I doubt if he heard that, because I do not think I said it.

"The Witness: Mr. Blackman will have to answer that question for himself.

"Mr. Goldstein: Q. Did you in the allocation of 3397 costs included in column B, consider the Illinois Bell a contracting party as against the American Telephone and Telegraph Company—

"A. As I said—

"Q. (Continuing)—other than telephone instruments?"

As I said, I took the costs which we had on our books for rendering that service and I collected them together in the statement of costs in A-170. Now, it does not make any difference for either, in either Exhibit A-198 or A-199; so far as the basic fundamental costs are concerned, they are the same in my judgment under both assumptions, excepting that when I come to A-199, I think I have the right to compute them even more conservatively; I have a right to compute them more closely than I do on A-198, for the further reason that A-198 assumes that I might be able to get a little profit out of my contract, whereas A-199 assumes that I was not entitled to a profit. Therefore I would figure my costs carefully.

Now, taking D-122, which is the detail for item D-2, "Fair Allowance for Telephone Instruments": I deducted from that certain costs as shown in A-170 in arriving at it.
3398 For item E, I took the current cost of telephone instruments, and used that as a base instead of the actual cost of the instruments. The current cost was the current cost as shown on our books. In 1923, I used $36,712,948 as the average current cost which was arrived at by taking the number of instruments that we had in 1923 and multiplying it by the then current cost.

In A-166 I show that our total investment in telephone instruments in 1923 was $31,329,013. Instead of using
3399 the $31,329,013, I used as a base $36,712,948. The reason for that difference is apparent on the face of the exhibit. The figures shown on A-166 are those which are the accumulated costs in our accounts for all instruments up to that time, and the figures shown on D-122 are the number of instruments multiplied by the current cost per unit in 1923; and I assume that the difference is the difference due to the change in the price per unit.

All we took as a basis for the average current cost of telephone instruments for the years 1923 to 1927, inclusive, was the average number of instruments charged against each company during that year multiplied by the prices of
3400 that year which the Western Electric Company charged us for the instruments. Those prices correspond to the price list of the Western Electric Company. I should hope they are identical with those. My people when they receive a bill from the Western Electric Company always check it to see that the prices are right.

I then deducted depreciation for the purpose of A-198 which for the year 1923 was $2,937,036. That is 8 per cent off of the average current cost. I deducted that when there was a depreciation reserve on our books against the instruments of $15,010,382 as shown in A-166. I used
3401 $2,900,000 instead of the $15,000,000 for the deduction because the $2,900,000 is based on the same factor that I used in compiling A-163, and that 8 per cent figure used

there was taken from Plaintiff's Exhibit A-32, pages 8 and 9, showing that the actual depreciation in those instruments was 8 per cent. I deducted in this statement the actual depreciation and in the other I deducted the depreciation reserve.

3402 "Mr. Goldstein: Mr. Heiss, did you make this statement in the Ohio case in response to a question as follows:

'Q. Well, do you know, or can you tell us whether or not there was a profit derived out of that sale by the American Company to the Associated Bell Companies of those instruments that they had bought from the Western Electric Company?

'A. There are two answers to that question. The sale of the instruments to the associate companies and the concurrent cut in the rate of license revenue was decidedly advantageous to the companies. Now,

3403 on the other hand—

'Q. To which company?

'A. To the local company.

'Q. To the local company?

'A. Yes.'

"Now, here is the thing; this is the statement that I am directing your attention to.

"The Witness: There is no implication there, I said there was a profit.

"Mr. Goldstein: No, no, I mean, this is the statement—

"The Witness: All right.

"Mr. Goldstein: Here is the statement:

'A. Now, on the other hand, the American Company carried its investment in instruments on its books, going back many years. I think in 1912 we came under the control of the Interstate Commerce Commission's accounting system; we had a reserve of nearly 50 per cent on those instruments; and through the years we kept the reserve at about that figure because the instruments involved very delicate patents, and the art of telephony was developing, and it wasn't clear in those

earlier years but what somebody would come along with
3404 a patent and make obsolete the instrument, so a high depreciation reserve was just a common sense procedure. Now, as the years went on and the instrument became more definitely an article of use, why, probably the same necessity for a large depreciation reserve was not in the picture. But when we sold the instruments, we had a good reserve on the books, and under the accounting practices of the Interstate Commerce Commission in closing our accounts on our books, closing out our depreciation reserve, we transferred to surplus I think approximately $14,000,000, not on profit from the associated companies at all, but as excess reserve that we had accumulated over many years in protection of our investment.'

"Did you make that answer?

"A. I made it—

"Q. Yes.

"A. —and I stand by it."

We had at the time we sold the instruments, and cleared our books, $14,000,000. That was transferred to our surplus, and from our surplus to our contingency reserve; and
3405 I think in this case, and in every case that I have testified in, the facts as to that are clear.

In connection with A-198, when I used the $2,900,000 deduction instead of the $15,000,000 deduction for depreciation, I did not have in mind also the fact that there was danger regarding patent infringement, or obsolescence due to patent development. I took 8 per cent off, which is the accrued depreciation which our engineers estimated was to be found in the instruments, and it is just a simple matter of subtracting the 8 per cent from the average cost, to get the cost less depreciation; that is all that is.

In the last item of D-122 for 1923 ($6,674,720), I include a return of 8 per cent on the current cost less 8 per cent depreciation.

3406 "Q. And that is your return. Now, then, as against that, you then take that figure to arrive at A-198, and

you deduct from that certain items shown in A-170. Now, which items do you deduct as shown in A-170?

"A. Well, I deduct the amount on A-166, and there is another—

"Q. You say you deduct A-166?

"A. Yes, sir."

I took A-166, and then I deduct also my instrument maintenance and depreciation. I am positive that I deducted the return on investment. I have checked and rechecked that.

In Exhibit A-200 for the year 1923, the fair excess
3407 allowance for the Chicago area is shown to be $145,625.

That $145,625 is simply the difference between the net cost computed as I have explained, by applying the average cost of funds to the investment less depreciation reserve, on the instruments, as contrasted here to a computation on the basis of fair allowance with an accrued depreciation at 8 per cent, and 8 per cent return. Now obviously before I could claim anything under item D-2, I had to eliminate that which I had already claimed in item B, and this amount in D-2 is just the excess over and above the costs already included in item B.

3408 I say that we are entitled according to A-200 to an additional $145,625.

"Q. Now my question is this: the $145,000 additional is over and above the $73,948 which you have already included in A-166 as a cost to the American Telephone and Telegraph Company in acquiring that investment."

It is over and above anything, whether it is cost on money, or instruments, instrument maintenance or depreciation.

3409 It is over and above anything that I have claimed in A-170. It is an additional amount that I feel we are entitled to, to put us on a parity with the Illinois Bell Company, if it owned those instruments; that is we are entitled to the same consideration in respect to those instruments as any other owner of them, because we devote them to public service.

"Q. Then, Mr. Heiss, am I correct in saying that the amount of money out of license payments for the year 1923,

for the Chicago area, over and above the actual expenses, that is, maintenance, depreciation and taxes, included in your Exhibit A-200, is the $145,625 plus the $73,948 shown in A-166?

"A. Well, no, I could not follow you on that."

3410 The costs for the year 1923 which are included in
3411 A-170, are $73,948, for carrying investment (that is that 6.87); and $212,366 for depreciation and maintenance. Now, those are all of the costs that are in A-170.

3412 In A-198, the line D-2 for the year 1923, $2,332,636 is the amount over and above the costs which costs include the carrying charges on the actual investment in instruments, less depreciation reserve. D-2 in A-200 for the Chicago area would be on the same basis.

I have never computed how much the American Telephone and Telegraph Company would earn on its actual investment in telephone instruments for the year 1923 from an allowance which would include $146,625 over and above the costs
3413 as just stated. The $73,948 in A-166 represents a carrying charge of 6.87 for 1928; that is on the total investment less depreciation reserve. I do not want to testify as to whether the $145,625 is 13½ per cent on that investment because that is just a mathematical computation.

The total return on actual investment on my calculations in A-200 would not result in a 20 per cent return on actual investment on telephone instruments. I never made a calculation on how much the return would be on actual in-
3414 vestment as the result of A-200.

"Q. Your statement that it would not, is based upon your knowledge that you don't know anything about it?

"A. Just my broad general knowledge of figures over many years. It just seems unreasonable that it could be 20.

"Q. And if it were found that the actual return on the telephone instruments leased to the Chicago area as a result of your computations in A-200 for the year 1923 resulted in 20.40 per cent on actual investment to the American Telephone and Telegraph Company, would say that was an unreasonable return?

"A. I don't care to answer the question.

"Q. You don't care to answer it?

"A. No."

Exhibit A-200 shows that the balance over and above the costs as stated above, in line E, is $361,183 for the year 1923. It shows for the Chicago area for the period 1923 to 1931 that the net balance over and above the costs for the nine years from 1923 to 1931 inclusive is $658,225 black, or
3415 excess over and above its costs. Exhibit A-199 shows that for the entire system, including the Chicago area, there is a loss of $28,193,600 for the same period but the two figures are not comparable. In order to arrive at the figure for the balance of the system, exclusive of the Chicago area, I could not add the $658,225 to the $28,193,600. The red figure of $28,193,600 includes the Chicago area, and the red figure $28,000,000 odd is also derived by including the cost of temporary financing in that figure, but no part of that is in the Chicago area.

3416 We would have a bigger loss if we didn't have the black in the Chicago area. I wouldn't want to say that our total loss for the balance of the system would be $28,193,600, plus $658,225 before I checked it. I don't believe it would work out quite as the addition of those two. I would want to check up first what the effect of the cost of temporary financing is. The difference between those two figures is, that included in the costs for the entire system, I have charged a loss for the temporary financing, and the Chicago area is not charged with any part of it. In the year
3417 1926, in A-200, I show for the Chicago area a balance of $221,000. I show in the red for the entire system $686,000. You would have the same adjustment then of increasing that by the amount in black for the Chicago area, taking into that computation the effect of the cost of temporary financing.

I think it was in 1928, we cut the license contract payments from 2 to 1½. We had a four and a half license payment to 1926, and cut it in 1926 from 4½ to 4. In 1927 we sold the telephone instruments and cut 2 per cent off. At the
3418 end of 1928, we cut it, effective as of 1929, to 1½.

"Q. Why did you make the cut from 2 to 1½ effective

in 1929 when you were in the red for the system $2,700,428 and you were in the red in 1929 $6,983,259?

"A. At the time, as a matter of fact, Mr. Goldstein, that we made the cut, we had not made any computation such as I have here."

That is, we had not made any computation of what it cost us to render services, in the same meticulous way that we have here, although we had made computations back there that showed generally how we were running. But my answer to that question, why did we cut it in the face of the loss, is that it was the judgment of the management that we should reduce it from 2 to 1½, that's all I can say. It was the action of the Board of Directors of our company, they considered it was good business to do it.

"Q. As a matter of fact, wasn't the reason that, beginning with 1926, all of the licensee companies were on an 8 per cent dividend basis, and you are investing your money and getting 8 per cent, and your costs of funds were getting less, so that you had financing profits?

"A. No, I have never heard that in all my years around the company, I have never heard that advanced."

We have always looked upon these permanent invest-
3419 ments of ours as in a distinct and separate category. If a man invests money in stock, he takes all the risks of stock, and is entitled to the return on it. Now, this other matter of cutting the license contract was just a matter of what was considered good judgment by those who are managing the business.

In A-199 I show as an additional item: liability of the American Company under guarantee to protect and save the associated companies harmless in connection with patent matters. This reserve for contingencies was determined upon by myself and the President and was set up by the Executive Committee. There was a resolution of the Executive Committee making the appropriation.

"Q. And the place where we would find it would be in the minutes of the Executive Committee, that you have
3420 refused to show us, is that correct?

"A. Yes.

"Q. And you having refused to show us, you now state the controlling purpose was to protect against patents?

"A. I don't believe, Mr. Goldstein, you would find that in the resolution at all, but the reason I say what I do here is that as Comptroller, such a matter as this, the matter of setting up reserves, is one of the things that comes very close to my functions, and in all my discussions with the President and the officers of the Company, I am giving your here the considerations that led us to recommend the setting up of this reserve."

My authority for setting up the reserve was finally the formal authority got from the Executive Committee. There may have been a whole lot of discussion prior to the action by the committee. It crystalized itself, in that resolution, because in large reserves of that type, I always like to have the formal approval of the committee of the board back of my action. There are ways the city can check anything
3421 I have said without looking at those minutes. Defendants have here the annual reports of the company to the Illinois Commerce Commission and they show for each year the amounts set aside.

"Q. But your authority for doing it is the Executive Committee authorization, which we have been refused, and about which we have been told it was a fishing expedition, to look at it?

"A. It is mentioned in the vote of the committee."

We set up as part of that same reserve for contingencies three million dollars, from 1927 to 1931. The Executive Committee did not authorize that but I state right on that sheet that the fourteen million was set aside in 1927 and I know, for the same reason that I just stated, that at the time we decided to set that to the reserve for contingencies it was considered that in view of the fact that we had put aside three million, and four million and so on in the years prior, that this fourteen million would carry us along for several years
3422 on about the same basis.

There was an Executive Committee resolution in 1927 transferring $14,395,000 to reserve for contingencies. It is

one of the resolutions in the minutes of the Executive Committee which the city was refused.

"Judge Wilkerson: What is it you have been refused?

"Mr. Goldstein: We have been refused access to the minutes, and when we filed our motion, we were resisted on the ground that we were going on a fishing expedition, when we wanted to inspect the minute books of the Executive Committee of the A. T. and T., we were refused access to

3423 those, and it has developed through this witness that two things come out of that Executive Committee. One, this purported reserve for contingencies that they are now claiming, and second, the authorization to make the returns.

"Judge Wilkerson: Well, do you want those minutes of the Executive Committee? That would not give you the right to look at them all. If you call for that, you can have it, or his testimony regarding it goes out; or you may have the resolution put in. But we have had no such motion.

"Mr. Blackman: We will produce them at once.

"Judge Wilkerson: All right.

"Mr. Blackman: What we do object to, and what the Court sustained us in was a blanket demand to examine all minutes.

"Judge Wilkerson: Of course, you may have access—not access, but you are entitled to the production of the original document about which he testifies, or his testimony about it will go out of the record.

"Mr. Goldstein: That is our position."

3424 This protection provided for by the Reserve for Contingencies is against patent infringements and includes apparatus as well as telephone instruments and anything to which our patents extend and which our guarantee covers. Section 2 of the lease contract provides that the American Company shall indemnify the licensees against infringements on everything that the American Telephone and Telegraph Company recommends.

"Judge Wilkerson: I think there have been during the course of the trial a good many allusions to inspection and examination and access of documents, or to the production

of documents. I think that where such an indication has been made, unless the attention of the Court is brought to it before the record is closed, the Court will assume that
3425 direction has been followed. It is brought to my attention just now by a ruling that Mr. Goldstein have access to certain minutes. Now, I shall assume that has been complied with, unless he brings it to my attention, and that will apply to both sides in this case about the inspection of documents. But I do not want this record closed and the argument made that somebody was ordered to do something, and the record does not show affirmatively that it was done. I will assume it has been done unless the contrary is made to appear."

This liability is a liability on whatever the contract states as to patent protection. I stated there were two lawsuits that indicated the seriousness of this situation, and they were both up in Michigan. I have reference to the Kellogg suit, with respect to manual switchboards.

3426 The Western Electric, to my knowledge, has never set up a reserve for contingencies to protect itself against infringements when manufacturing this apparatus because I understand that that liability is the liability of the American Company. I don't know whether the Western Electric set up any reserve for contingencies against that same sort of an infringement of the same sort of apparatus sold to the independent companies, which it does guarantee. (Mr. Goldstein stated that Western Electric does not set up such reserves for contingencies. The Court said as no one denied that statement they would assume it is a fact.)

3428 Dr. Jewett's testimony will speak for itself on whether it actually cost the American Telephone and Telegraph Company ten million dollars to acquire the General Electric and Radio Corporation patents as shown in additional item B on Exhibit A-199. It is my exhibit but the word "cost" means just what Dr. Jewett said on those pages referred to. I understood Dr. Jewett to mean that over this period, and for a long time before, the D. and R., the Laboratories and the Western, had spent more than that amount—

or approximately $9,000,000, say through this period alone on that type of research, and when we came to acquire from
the General Electric and the Radio Corporation their
3429 ideas, they would not sell them for any price. They
would not give them to us for any price, so we gave up in that connection ideas on which we had spent, as Dr. Jewett said, I think in the record there, nine to ten million dollars to get these rights for the associate companies.

That nine or ten million dollars which was spent by the Development and Research Department itself, or was paid for by the American Telephone and Telegraph Company to the Bell Telephone Laboratories in charge of the Development and Research is included in the license contract expenses. I claim this as an additional credit because we were not obligated to do what we did here in acquiring those patents.

"Q. That is the A. T. and T. made a deal to turn over something that the licensees are paying $10,000,000 for to get something from the General Electric, and for that you say the A. T. and T. is entitled to a separate credit from the licensees?

"A. No it is not that, Mr. Goldstein."

It is this: the job that the American Company had
3430 in those years was to explore this whole matter of the
radio and the new things in the electrical communication art, to advise the associate companies as to whether there was anything in this matter that would affect their plants and to clear the situation for the associate companies. The American Company had finished its task, when it did that. There was no obligation upon the American Company to go on and to give us these ideas to the General Electric, or to anybody else.

"Q. Who paid for those ideas?"

The ideas were the by-products that developed from an entirely different undertaking. The Development and Research Department did a real job of investigation, to give
to the associate companies the satisfaction that there
3431 was nothing in the radio that should make them uneasy
about their telephone plants and their telephone set-ups. Now, the American Company might have stopped

there. But it had all of these ideas. It had all of these by-products, it might have stopped right there, and said, "We will not do anything with them beyond that." The money that it spent in making this investigation was to satisfy the companies on that one point. Now, it took the by-products, and it went one step further, it said, "We want to give to the associate companies the benefit of these by-products ideas", and it took the ideas, the by-product ideas that it had, that it might have sold to other people at a considerable sum of money, and traded them with the General Electric and the Radio Corporation of America to get the valuable patent rights for the associate companies. Now, there was no obligation under the license contract for the American Company to do that. It was away beyond what the license contract requires the American Company to do, and that is why I say we rendered them a very special service there in making these things available.

"Q. Mr. Heiss, if the A. T. and T. makes the investigation in the radio field and charges all the expense to the licensees, to satisfy them that there is nothing in the radio field that is going to hurt them, and as a result of this investigation the A. T. and T. get an idea, gets ideas, and the A. T. and T. can sell those ideas for ten million dollars, it is your thought, is it, that the A. T. and T. can keep the ten million dollars, or is entitled to a credit for the ten million dollars?

3432 "A. Looking at it from the approach that we have here, where we are contracting parties, if we give the service to the companies that we agreed to give them under the license contract agreement, and if out of that research we get certain by-products that we can sell in other fields, it is not any concern of anyone what the American Company does with those by-products, that is, if we are contracting parties. That is the property of the American Company to use it as it wants to. But in this instance, it did a very valuable thing, it took those rights and traded them for other rights, and made the patents available to the associate companies when there was no real obligation under the license contract to do so."

3435 In connection with footnote (e) in Exhibit A-199 the word "deductions" may be read as "additions" so far as (e) 2 is concerned.

I meant that there should be considered whether or not we should give credit for those items, in getting a fair, conservative picture, but I do not mean that credit should be given for the entire royalties. My own personal view is that you should not give credit for more than about one-
3436 third of them.

In C-1 (Exhibit A-199) I say, "Working Capital," and show the figure seventy million to three hundred million dollars. That seventy million to three hundred million on this statement is not the amount in A-169 for the licensee companies but for the licensee companies plus the holding company operations. I said that before you could say that the $1,303,744, which is the difference between the revenue the American Company received and the costs and deductions taken off, that there were other things that must be considered, and I said one of those things (I didn't
3437 appraise the amount) that must be considered is the fact that the American Company has cash balances ranging from seventy million to three hundred million. I might as well have said ranging from seventy millions to two hundred and fifty million. That is, the principle would be the same if I had fifty million more or less it wouldn't make any difference. It was just to call attention to this fact, that here was a factor, whatever consideration was to be given to it, that must be considered.

"Q. 'One other thing about that explanation you made in the record, which you laid down as a basis for your study in A-199, that there is a certain conservatism in your figures, in which you use the average costs, the costs in A-164. 'I did not take into account the cumulated surplus, appropriated and unappropriated surplus, as a capital charge.' You stated that in Michigan—it explains the difference between Ohio and Illinois on the one hand, and Michigan. In Michigan you say you did not make an allowance for the appropriated and unappropriated surplus in the calculations. Am I to understand

from that that when you figured the cost of capital in Michigan, you took it as applicable to the investment represented by stock, and that the cost was not to be considered as the
3438 yield on the stock plus the surplus?

"A. Now, Mr. Goldstein, I think we can shorten the thing very much if you will just refer to City Exhibit 142-E that I put into this case two years ago, and I brought it up to date for you. Now, that City Exhibit 142-E shows that if I followed the method I used in Michigan over the years, I would get some very peculiar costs of money. For instance, I would have gotten for 1926, 8.42 because that was a year in which we put out a stock issue.

"Q. But, Mr. Heiss, that is not the question.

"A. And then I would have gotten, in 1929, an average cost of funds of 4.98, because that was the year we put out a convertible bond issue at 5 per cent.

"Q. My question is not that at all, Mr. Heiss. You testified yesterday, 'In Michigan I did not make this allowance or give credit, I did not give credit for surplus, and that, in itself, accounts for substantially all of the difference, except certain minor items.'

"Am I to understand from that that your cost of funds in Michigan, as you now explain it, did not take into ac-
3439 count that whatever you paid was supposed to be a yield on surplus also?

"A. It did not, it did not. I can give you the facts in Michigan. The inclusion of surplus in Michigan, or the inclusion of surplus in this case and not in Michigan, accounted for $3,200,000 of the difference.

"Q. Right.

"A. And the remaining factor—that is, if I had omitted surplus, if I had omitted surplus and compared the cost of money to us, the average cost of funds, omitting the surplus, with the method I used in Michigan, the difference would have been about $700,000.

"Q. But the Michigan method, as you now explain it, would have had the entire cost allocable to the investment in capital stock and not in surplus?

"A. Well what I did in Michigan, Mr. Goldstein, I stated I took the three-year period, and I said, 'What money did we get in the three years?' We got $100,000,000 or $150,000,000 of stock, and I put it in at the dividend rate for stock. And I said, 'We got bonds', and I put it in at the rate we got for bonds, and so on, and the Michigan cost of money was just a composite of the base rates, the dividend rates or the base rates on the bonds, including amortization, over the two or three-year period.

"Q. Applied to the actual amount of money you re-
3440 ceived, and not to that amount of money plus the surplus?

"A. Applied to the actual amount of money that we used in the business.

"Q. That you received during those years?

"A. It was in connection with the actual amount of money received in those years.

"Q. But you applied the per cent to the actual amount of money received in those years, and did not take into account surplus?

"A. I did not take into account surplus, no, sir."

Re-direct Examination by Mr. Blackman.

For the year 1923 in the Ohio case, I deducted a
3441 million dollars plus $28,905 additional for direct items excluded. In this case I have taken out $772,000. The difference is not over $250,000. That is, my estimate in Ohio was $250,000 greater than the actual deductions that we accumulated in our study in this case, based on the deductions made by each department head for his own department. In Ohio I undertook to do the whole thing and took a lump sum of a million dollars.

Re-cross Examination by Mr. Goldstein.

For 1928, I deducted $2,000,000 in the Ohio case and in
this case I deducted $907,000. Now, the reason for my
3442 larger deduction in Ohio was that I felt, inasmuch as I

was making an estimate, I ought to include in that estimate something reflecting the growth of the business. For 1924, in Ohio, I estimated $1,200,000, and in this case used $751,888. In Ohio for 1925, I used $1,400,000, and in this case used $864,890; about $500,000 difference. For 1926 I used in Ohio about $1,600,000, and here I used $942,486; for 1927, I used in Ohio $1,800,000 and I used here $859,528; 3443 for 1928, I used in Ohio $2,000,000, and I used here $907,149. For 1929, I used in Ohio $2,250,000, and used here $1,056,028; for 1930 in Ohio I used $2,500,000 and here used $1,152,350; for 1931 in Ohio I used $2,500,000 and here I used $750,011. The last year is not comparable, because I have excluded there the factor in connection with the large amount of money which we had available in New York, and which I did not charge up against the license contract.

"Q. But the difference of that factor is an additional $700,000 there?

"A. I think it amounts to $700,000 or more, but it all goes to show, Mr. Goldstein, my conservatism in the Ohio case where I was on my own.

"Q. Yes.

"A. And in this case I was at the mercy of my attorneys, and I had to make the deductions as they outlined the specifications."

In connection with the Ohio case, I discussed the matter (but not the deduction) with the heads of the depart- 3444 ments. As I said a while ago, this matter of separating expenses here, license contract expenses from other expenses, was quite a mystery, and the department heads could not tell me very much.

"Q. Do you have the same attorneys here as you had in Ohio?

"A. Yes.

"Mr. Blackman: I wasn't in the Ohio case."

Re-direct Examination by Mr. Blackman.

In the Ohio case I undertook to do this thing myself after consultation with the heads of the departments. In this case counsel insisted that the head of each department make his own allocation of the amounts for which he was respon-
3445 sible. That is the difference.

"Mr. Goldstein: We object to the introduction of these exhibits on the same ground as the initial exhibits to which they have application, and on the additional ground that we have not yet had available the minutes of the Executive Committee meeting.

"Judge Wilkerson: I shall overrule the objection, on the assumption you have access to the minutes of the Executive Committee.

"Mr. Blackman: Oh, yes, they will have access to those.

"I will offer in evidence D-122 for identification. I thought I was going to save time by leaving that out, but I find I have not saved any time, it has just led to more cross-examination, so I will offer it in evidence now, and ask leave to supply the blank in Exhibits 198, 199, 200 and 201.

"Judge Wilkerson: It is admitted."

(Which said document marked D-122 for identification was thereupon received in evidence as Plaintiff's Exhibit A-202.)

3446 "Mr. Bracelen: If your Honor please, I think your Honor did not rule upon our offer of Exhibits A-125 to A-129, inclusive, being exhibits identified by Mr. Turner.

"Judge Wilkerson: What is the nature of the exhibits?

"Mr. Bracelen: They were the depreciation exhibits.

"Mr. Goldstein: They were subject to our motion. We moved to have them stricken.

"Judge Wilkerson: You objected to them?

"Mr. Goldstein: We objected.

"Judge Wilkerson: And stated the grounds, and the grounds are similar to those urged against other exhibits which I have admitted. Are there any objections peculiar to these exhibits?

"Mr. Goldstein: We have read into the record our specific objections to them.

3447 "Judge Wilkerson: What is the objection?

"Mr. Bracelen: I understood the objections were overruled, but I want a definite ruling.

"Judge Wilkerson: They may be admitted.

"Mr. Bracelen: If I may have it, that they are received in evidence.

"Judge Wilkerson: Yes. It may be understood in this case that when an exhibit has been offered, and there is no objection to it, it has been received in evidence, even if the record does not show affirmatively the Court has received it; if it has been objected to, the objection has been overruled; it may be understood it is in the record, even though the record does not show an affirmative ruling of the Court.

"But if you call my attention to it, I will rule affirmatively, so that it will be in the record. If that question should arise hereafter, in view of the large number of exhibits, where there has been a ruling on the objection, it will be understood that the document is in evidence."

(Which said documents, so offered and received in evidence, were marked Plaintiff's Exhibits A-125 to A-129, inclusive.)

3448 L. G. WOODFORD, called as a witness on behalf of the plaintiff, having been first duly sworn, testified as follows:

Direct Examination by Mr. Bracelen.

May 27, 1932.

My name is L. G. Woodford. I live in West Orange, New Jersey. I am in the employ of the American Telephone and Telegraph Company in the Department of Operation and Engineering in New York. I have been continuously employed by the American Company for about nine years and have been in the employ of the Bell System twenty-one years.

I entered the employ of the Iowa Telephone Company in 1911. With that company I had about four years' experience in various kinds of Commercial and Plant Engineering work. In 1915, I was made Appraisal Engineer of the Northwestern group of the Bell Companies, which was later consoli-
3449 dated to form the present Northwestern Bell Company.

In that position my duties were directed to making inventories and appraisals of plant for various purposes, making various kinds of cost studies, and making studies of depreciation rates. In 1923 I was transferred to the Department of Operation and Engineering of the American Telephone and Telegraph Company, and in 1924 was given the position which I now hold.

I am Plant Inventory and Costs Engineer for the American Telephone and Telegraph Company in the General Department. My duties are largely in connection with the development of methods for studying service life and salvage of the various classes of telephone property, and in advising and assisting the operating companies in the application of those methods. I am also responsible for work on methods of making inventories and appraisals of plant, but work in that connection has been a very minor portion of my total work. Practically all of my time has been devoted to the subject of service life and salvage studies.

The Northwestern Bell Telephone Company did and
3450 does operate in five states: Iowa, Nebraska, Minnesota, and North and South Dakota. My work, while with that company, extended over the entire area of the company, from 1915 to 1923. Prior to 1915 my work was in Iowa only.

I am generally familiar with the methods that have been used in Chicago in the year 1923 and succeeding years, in ascertaining the average service lives of the various classes of property, and in determining salvage expectancies, and deriving the depreciation rates, although I have had direct contact with the work only during the latter years of the period. I heard Mr. Turner's testimony given in this case and have made some examination of the exhibits that he identified and used in his testimony.

I am familiar with the methods of the other operating units of the Bell System with respect to the same sub-
3451 ject matters through my contact with the people who are doing work in the other operating companies. The methods used in Chicago and in Illinois by the Illinois Bell Telephone Company are substantially the same and the principles are substantially the same as those of the other operating units of the system.

The line of demarcation between charges to maintenance, on the one hand, and charges to depreciation expense, on the other, are drawn upon substantially the same considerations for all the companies. That is accomplished through the use of a set of units of property, which establish the dividing line between maintenance and depreciation, expressed briefly. These units of property designate the size of items or parts of items which, when replaced, shall be given fixed capital and depreciation accounting treatment. All items, when retired, are of course given fixed capital and depreciation ac-
counting treatment. But items smaller than those speci-
3452 fied in the list of units of property are charged to maintenance when replaced. That list of units of property is, I believe, uniform throughout the system, the general list is established by our Accounting Department, and as far as my knowledge goes, all companies are following that with substantial uniformity.

As an illustration of some relatively small unit that is cleared through the depreciation account, and some smaller unit that is charged to maintenance that has nothing to do with the depreciation account, take the case of aerial cable. The various matters which are charged to the aerial cable account are cable cable terminals, the strand on which the cable is hung, and the rings in which the cable is placed. The terminals are treated as units of property. If a terminal is retired for any reason, and must be replaced, when it is retired it is credited to the capital account, and its cost charged to the depreciation reserve, less, of course, any salvage that is obtained. If rings are replaced, however, they

are not given fixed capital and depreciation accounting treatment. The cost of depreciation is charged to current maintenance. Also, if a small section of cable had to be re-
3453 placed for any reason, less than a span of cable, if there were a fire in an alley and we had to replace 50 feet of cable, but that did not constitute a complete span of cable, the replacement of that 50 feet would be charged to current maintenance. If, however, we replaced a span or more of cable, at one time, under those conditions, fixed capital and depreciation accounting treatment would be given. If we replaced a span or more, due to its destruction by fire, we would clear it through the depreciation accounting precisely as if it were retired for some other cause. It makes no difference what the reason for retirement is. In the list of causes of retirement which Mr. Goldstein enumerated when Mr. Turner was on the stand, I noticed he gave them as stated in the I. C. C. system of accounts, except that he omitted the last one, which is "Storms and casualties". A fire would be a casualty.

3454 A pole is a unit of property; a cross-arm is also a unit of property. For another item which is in the pole line account, but which is not a unit of property: take a guy, or an anchor. If we replace a guy or an anchor without replacing the pole to which they are attached, that cost of replacement is charged to current maintenance. If we replace the pole, anchor and guy, then the whole is given fixed capital and depreciation accounting treatment. The pole, anchor and guy do not constitute one unit. The two units in the pole line accounting are the pole and the cross-arm, as I stated. Anchors and guys are not treated as units of property.

3455 Other minor parts of a pole associated with the pole, we do not set up separate retirement unit costs for them, we do not retire them separately from the pole, and if we replace them while the pole is still in service, we charge the cost of replacement to current maintenance.

The two illustrations which I have used now, the cable and the pole, serve to illustrate the principles that are employed

in this accounting. The units, of course, are different for different kinds of property.

It is my understanding that throughout the Bell System the depreciation rates are applied monthly to the cost of the depreciable property as shown on the books in order to arrive at the monthly charge to expense for depreciation.

3456 The methods used by Mr. Turner in Chicago and the methods used by other companies are similar. There are, of course, some variations. In some cases companies are able to make mortality studies of more classes of plant than other companies can. But, as a general proposition, the methods are similar, and similar methods are used for the same classes of plant throughout the system. So that throughout the system the classes of plant fall into the same four groups used by Mr. Turner in his testimony and in his exhibits. With reference to the central office equipment and buildings, I am familiar with the method employed, as explained by Mr. Turner, of arriving at the average service life by taking into account the additions in the one case to the equipment, and in the other case to the buildings.

I have had occasion to consider the problem presented by the cross-examination of Mr. Turner by Mr. Goldstein.

3457 I think the principle that is involved would be brought out clearly by considering the alternative plans that a telephone company might follow in building central offices. It seems to me that there are just three courses of procedure which could be followed in providing any building and its associated equipment.

One would be to build a small building, one which would not be capable of expansion, and to put in that building a relatively small amount of equipment, which would take care of the service requirements for a relatively short period of time. Then at the end of that short period of time, when the equipment was no longer adequate, the service might be moved into a larger building with a larger amount of equipment.

Now, another plan which might be followed would be to construct a very considerably larger building and to put into it at the start an amount of equipment which would take

care of the service requirements for many years, perhaps until the equipment would have to be retired, because it was worn out.

Now, those two plans of procedure would be clearly uneconomical, no telephone company would consider doing
3458 either thing. The costs would be high, the costs of giving service would be high, under either of those plans. In the first case there would be a very high depreciation rate for the building, and another high depreciation rate for the equipment, and while the amount of investment would be small, the dollars of expense would be large, because of those high rates. In the second case, while the rates of depreciation for the building and the equipment would be low, the expense would be still high because of the large investment.

There are other carrying charges to be considered in addition to the expense of depreciation, of course. With a large initial investment, large idle equipment, idle space in the building, the carrying charges for interest, for taxes and for maintenance would be high. Now, if a company should follow either of those plans, you would not have this question that has been presented here, of whether the use of an average depreciation rate throughout the life of an office does not result in advance accruals before investments are made; that question would not be present in either of these two cases which I say the telephone companies would not follow, because there would be no additions to consider. But if
3459 the company were to follow either of those plans, it would certainly be open to criticism because of the uneconomical way in which it had engineered its plant.

What the telephone companies actually do is to build a building which is capable of expansion as additions need to be made, and to put in central office equipment which can be added to as the number of subscribers or the amount of service increases. That is done because it is the most economical thing to do, because the charges for service over the whole period, the life of the office, will be less on that basis than on either of the other bases. Now, we do not add additions to the building or additions to the central office equipment solely for the benefit of the service which is furnished

after those additions are made. Those additions are made as a part of the whole plan of extending the life of the office, and of furnishing service in the most economical manner.

Each addition that we make to a building or to a central office equipment is of value, is of benefit, to all of the previous investments that we have made in that building or central office equipment.

What we do is to determine the average service life of
3460 all the investment that we expect to make in the building, the average service life of all the investments that we expect to make in the equipment. We set up depreciation rates on the basis of those average service lives, and we apply the one level rate for the building throughout the life of the building, we apply the one level rate for central office equipment throughout the life of the equipment.

Now, the rates are applied, however, only to the investment that we have in any particular year. As a result, we are charging in each year the same amount for depreciation per dollar of investment throughout the life of the building, throughout the life of the central office equipment. The result of that is a tendency to produce a more uniform charge per unit of service throughout the lives of those items of property.

This method which I have described is what is known as the group plan of depreciation accounting. That is the application to the particular classes of plant. And here we are
treating a building as a group, or the central office equip-
3461 ment in one building as a group.

The group plan is applied to classes of plant, all classes of depreciable property, the classes of property for which we make charges for depreciation in our operating expenses.

To illustrate the application of the group plan to some other class of plant than central office equipment or building we might take our aerial cable plant again, and consider any original group of units of aerial cable, say 100,000 feet of aerial cable installed in one year. Let us assume that that 100,000 feet of aerial cable will have an average life of twenty years. Some of it will go out after one year of service, some after

two years of service, some after three years of service, and some of it may last for forty years, but the average would be twenty years.

Now, under the group plan of accounting, and neglecting salvage in this case in order to simplify the example, under the group plan of accounting, a depreciation rate of 5 per cent would be applied to the cost of all of those units of 3462 cable as long as they were in service, would be applied to all of the units in service throughout all the forty-year life span (forty years being the assumption I made as to the time that the last units would come out). The charges per unit of cable over that period in each year would be uniform then, 5 per cent.

Now, under the plan which has been suggested here, it will be necessary to charge a depreciation rate on each of the units, depending upon its life, the units which lived one year, again neglecting salvage, would have 100 per cent depreciation rate. Those which lived two years, or went out of service at the end of two years, would have a 50 per cent depreciation rate, and so on. Those which lasted forty years would require a depreciation rate of 2.5 per cent.

Under that plan of accounting, you would start with this original group of 100,000 feet of cable, you would start out with a high depreciation rate, and as parts of the 100,000 feet dropped out that have had short periods of service, we would gradually decrease our depreciation rate, getting down, as I said before, to the point during the fortieth year, 3463 where the last units would have applied to them a depreciation rate of 2.5 per cent. I was discussing the plan brought out by Mr. Goldstein's question to Mr. Turner on buildings and central office equipment.

(Counsel for City stated that they had not suggested any plan but were cross-examining on the one shown by plaintiff's exhibits. Mr. Braeelen stated he merely wanted to clarify the record and that the witness had been testifying about a plan that was implicit in Mr. Goldstein's cross-examination. Counsel for City stated that the plan was inherent in plaintiff's exhibits.)

May 31, 1932.

3465 The exhibit of six sheets identified as A-203 was prepared under my supervision.

3466 I believe it to be correct.

It is designed to show the extent to which the depreciation rates of the other Bell companies have differed from the Chicago rates during each of the years 1923 to 1931. The differences were determined by comparing the actual charges to operating expenses made by the other companies for the depreciation of plant and equipment with amounts representing what those expenses would have been if the Chicago rates had been in effect in each of the other companies in each of these years.

As I testified last Friday, the general practice of all Bell companies is to apply class depreciation rates to the book costs of the several classes of depreciable property. For that reason, if we take any given company and use those same book costs, applying to them the depreciation rates of any other company, and compare the result with the actual charges made by the first company, we have a direct comparison of the over-all level of depreciation rates of the two companies. That is the basis on which the differences in this exhibit were determined.

3467 Take some of the figures on page 1, the three columns headed "1923", the first line, for the New England Telephone and Telegraph Company. The figure in column A, $5,787,000 was the actual charge of operating expenses for depreciation of plant and equipment made by the New England Company in 1923. The figure in column B, $6,173,000 represents what that charge would have been at Chicago depreciation rates. In the third column, the ratio of the first column to the last is given, in this case .94. That means that for the year 1923 the depreciation rates of the New England Company taken as a whole, were 94 per cent of the rates for Chicago taken as a whole. Similarly, on the second line, the figures indicate that the rates for the Southern New England

Company were 102 per cent of the Chicago rates. And in the third line, for the New York Company, they indicate that there was substantially no difference.

The figure of $66,264,000 in the last line is the actual charge to operating expenses for depreciation made by all the companies other than the Illinois Bell Company. The figure 3468 in the second column, $69,156,000 is the sum of the charges at Chicago rates, for all of those companies. The ratio in this case is .96, which means that the rates of all the other companies, save the Illinois Bell Company, were 96 per cent of the rates for Chicago. In other words, they were 4 per cent below the Chicago rates.

Sheets 2 and 3 are like sheet 1, merely continuing the same statistics of those subsequent years down to and including the year 1931.

The relationship between the Chicago rates and the combined or composite rates for all the other operating companies, appears in the percentage figure in the last line, and in the third column for each of the years, being 99 per cent in 1924, 98 per cent in 1925, 96 per cent in 1926, and 97 per cent in 1927, 103 per cent in 1928, 105 per cent in 1929, 106 per cent in 1930 and 103 per cent in 1931. Those are the ratios of the over-all depreciation rates of the other companies 3469 to the Chicago rates for those years.

For the year 1923 expressed in terms of the composite depreciation rate that we are accustomed to talk about when we say that the annual depreciation rate of the companies is a stated per cent over all and if we take for purposes of illustration a base rate of 5 per cent, this 96 per cent would be equivalent to 4.8 per cent.

Sheet 4 of this exhibit is merely a summary of the preceding three sheets for the entire period. It shows for each company, for the entire nine years, the relationship between its depreciation rates and the Chicago rates; also the relationship for all companies, excluding the Illinois Bell Company.

The figure of 101 per cent in the last column of the last line means that taking the entire period of years 1923 to 1931, and all of the operating telephone companies of the system, other

than the Illinois Bell, the combined depreciation charges made by those companies during this period were slightly in
3470 excess of the charges they would have made if they had been applying the Chicago rates throughout the period. Stating it differently, the charges for the rest of the operating companies of the Bell System were 101 per cent as related to the Chicago rates, considered at 100 per cent.

Turning back to the first sheet I would call attention to the last line of the heading reading as follows, "Omitting Charges for Station Installations, Interior Block Wires, and Exchange Aerial Wire". We omitted those three classes of plant from these comparisons in order to make the comparisons valid. In the case of the first two, Station Installations and Interior Block Wires, there have been no charges to operating expenses for depreciation in Chicago during any year of this period, whereas many of the other companies, up until the beginning of 1929, did make such charges in small amounts to care for unusual extensive replacements in those classes of plant. Now in the case of the third class of plant,
3471 Exchange Aerial Wire, there is a marked difference in characteristics between the wire in Chicago and in most of the other companies. During all of this period the Exchange Aerial Wire in Chicago has been wholly or almost wholly insulated wire which is used mostly to connect the subscribers' inside wires with the distributing cables. Many of the other companies have substantial amounts of bare iron wire and bare copper wire, in addition to covered wire used for drop wire purposes. For that reason a comparison between Chicago and the other companies would have been a comparison of two entirely different types of plant of the same classification. On pages 5 and 6 are shown the amounts deducted from the total actual charges for depreciation appearing in the records of the other companies for these three classes of plant. Those amounts were obtained from the companies.

I could not make a valid comparison by taking the actual charges of each company in every instance, because of the differences between their depreciation charges in this re-
3472 spect as I have explained, and the comparison is made

after excluding from the charges for all companies, whatever the actual charges were on account of these three classes of plant.

The figures in columns A throughout the first four sheets of this exhibit, represent the total charges for depreciation as made by the companies, less the charges shown on pages 5 and 6. The figures appearing in columns B, which are the amounts calculated at Chicago rates, eliminate those charges by the simple process of not applying rates to book costs of those three classes of plant.

To sum that up I could not make a valid comparison with those items in, and I can make a valid comparison with those items out, and that is what I have done.

This book of 59 pages (indicating) plus an index page in the back of it, bearing the legend on the cover "Associated Operating Companies of the Bell System; Computation of Amounts of Depreciation Expense based on Chicago Rates, 1923 to 1931" contains the work sheets from which the figures in columns B on Exhibit A-203 were derived.

(It was agreed that Exhibit A-203 and these work sheets about which witness had just testified, and a short memorandum explanatory of the procedure followed, were delivered to counsel for the City about two weeks before, so that they had an opportunity to examine and check them.)

Cross-Examination by Mr. Goldstein.

3473 In discussing the propriety of computing depreciation rates on the basis that we have in connection with the central office equipment and buildings, I stated that as I viewed it, there were two alternative plans, to engineer a building; that one was to build a small building that was incapable of expansion, and the other was to build a building that was much larger than needed for present use; and either one of those two were economically unsound.

3474 "Q. Now, did you ever consider the third alternative of building a small building with a foundation capable of carrying a much larger building? I take it that is the ordinary

situation—assume a one-story building would cost $100,000 with a foundation for nine stories and you plan to build one story every five years for 45 years, and each of those new stories will cost $100,000 and then the entire building and the additions will be torn down in 50 years. Now as I take it you would justify the initial investment of the $100,000 plus the additional cost of the foundation to take care of the nine additional stories by saying that it prolonged the life of the initial investment. Is that correct?

"A. Yes, that is right. Of course, your example is just
3475 a little bit extreme, Mr. Goldstein.

"Q. Well, I am taking 50 years because the Merrimac Building was a 50-year proposition and your additions were scattered over that period including the last ten years so I take this as an example and for the sake of our argument I want to get the principle.

"A. All right. The principle is all right.

"Q. You justify the original investment plus the initial additional investment for the foundation on the basis that the initial investment is prolonged in life. Now what is the reason for making the present users of the one-story in the case I assumed to reimburse the owner 45 years in advance for the proposed investment that he expects to make 45 years off if and when conditions would require in the 45 years and if he is able and willing to do so at the end of the 45 years; what is the justification for that?

"A. It is only by making the additions, Mr. Goldstein, that we would be able to keep the building in service that long."

3476 If we never made the additions we would probably not keep the building in service that long. We could tell during the first 45 years whether we were going to make that additional investment or not; we plan to make them when we start the building. It is on the basis of planning to make it for 45 years, that we keep the investment alive for 45 years. We cannot tell until the 45 years arrive whether we are going to make the last investment or not. We cannot tell defi-
3477 nitely what we are going to do with any building far in

advance. Our service life for the 45 years depends upon our hope or expectancy to build at the end of the 45 years. I say we justify the payment by the present users of that one-story, because the additions extend the life of the initial structure. It is the additions when made that actually extend the life.

"Q. I am talking about the last addition now, your justification for reimbursement of that last addition, as I get it, is the fact that the expectancy of making that last addition prolongs the life of your first initial construction?

"A. Yes, that is correct.

3478 "Q. Now is there any guarantee or any provision made during the 45 years which assures the present users that at the end of the 45 years you will use the money which you have collected prior thereto for the purpose for which you say you are going to use it? Is there anything in your plan of operations that assures them that?

"A. Well, I do not know what you mean by a guarantee, Mr. Goldstein. We are building, we are planning our buildings in the most economical way, and we believe that we can forecast, not for specific buildings, but for the buildings as a group, about what we are going to make in the way of additions, and it is on the basis of such forecast that we determine our average service lives. Now there is no guarantee I

3479 suppose in that, that we are going to make the additions, but if we do not make them we will probably have higher depreciation rates."

In this assumed case, of a one-story building, where we expect to make nine additions of one story each, the last one 45 years from now, if at the end of 30 years we decide that on account of growth we do not have to make that addition, we have already collected that money for the first thirty years. I presume that the money so collected would be balanced against some other case where we had a much shorter life and a much higher depreciation rate than we had anticipated. That will be balanced against some other situation of a different character. What I mean now is that if we were short on our depreciation of some other item in our calculation, we

would apply this excess against it; all of our accruals go into one reserve.

"Q. Well, now, your accruals are predicated upon a basis of reasonable accuracy so that there won't be deficiencies to make up, one against the other, is that right?"

3480 As I said before we do not think that we can forecast exactly what we are going to do with individual buildings, but we do think that we can do a reasonable job for all buildings as a group.

Under the assumption heretofore made for the first 45 years we have accumulated money, and during these 45 years that money, like all the rest of our depreciation expense, finds its way into the general funds of the Company and it goes into plant or into working capital.

That part of the plant serving the public during these 45 years would then become part of our rate base.

"Q. Now I would like to ask you where in connection

3481 with your plan for depreciation expense, or in handling the depreciation reserve, have you taken into account the fact that during these 45 years every dollar that you have collected, before you have used it for the benefit of the public, or for the purpose for which it is intended, will earn, will have earnings, because it goes into the plant, and those plants will have earnings?

"Now where in your plan have you made provision for that?

"Mr. Bracelen: Just a moment. That question is objected to as not cross-examination. Also as a matter of argument, calling for the conclusion of the witness on a matter which plainly is for counsel to argue to the Court.

"Mr. Goldstein: They have calculated a depreciation expense. Now what I want to know is, where in their calculation of depreciation expense do they take that into account, if they do?

"Judge Wilkerson: Do you take that into account?

"A. No, we do not."

3483 In the accounting, in connection with the assumed case, we would apply an average depreciation rate

throughout the life of the building (in the above assumption).

3484 If the rate were applied to any amount other than cost the amount of the accrual produced would be different than the amount based upon cost; that is obvious. If the reproduction costs were higher, the accrual would be higher, and if the reproduction costs were lower, the accrual would be lower than on the book cost basis. Actually, we do not make our accruals on our books on that basis; we make our accruals on the basis of cost.

The percentage which we apply on our books is for the purpose of accumulating over the entire life of the build-
3485 ing, the amount which we expect to have invested in that building including the initial construction and the additions.

We have made no provision in our calculations, or in our plans and I do not know of any, whereby if the Company ceases to do business, or if the Company abandons the project, or if there is a sale of the Company's property, credit will be given to subscribers for the accumulations which have been made for future additions.

3487 In 1928 I testified before the Interstate Commerce Commission in their depreciation hearings.

"Q. In discussing net salvage you stated:

"Answer: While such percentages, that is percentages determined upon the basis of a uniform cost level, may not represent the amount of net salvage which will be recovered from the particular plant in service at any given time, they do represent the average amounts which will be recovered over long periods, since variations in wage and price levels, affecting, as they do, both the cost of the plant installed and the amount of net salvage recovered, tend to be compensating in their effects.

For example, during periods of temporarily high cost levels the amounts of salvage realized are higher—although offset to a considerable extent by the higher

costs of removal—than the average reflected by the percentages used in determining the depreciation rates, owing to the fact that the plant from which the salvage is being recovered was installed at lower cost levels.

3488 But during such periods new plant is also being installed at the temporarily higher cost levels, from which the amounts of salvage later recovered will be lower than the average reflected in the percentages used.

Due to this compensating tendency, the consistent use in the depreciation rates of percentages of net salvage which exclude the temporary effects of changes in cost level, will, we believe, produce substantially correct results.

"Is that a fair statement of your position?

"A. That sounds like the statement I made in 1928, yes."

I would not apply the same reasoning in connection with central office equipment, and say that if we have an initial construction which would have a low depreciation rate and later additions which will have a high depreciation rate, the high depreciation rate of our later additions will be compensated for by the low depreciation rate on a new building which would go up during the same period, because we

3489 are not dealing with the same question at all. The same reasoning would not apply at all. In the case of salvage, we are confronted with this problem: We have no exact way of definitely determining what the price levels are going to be at which salvage will be recovered, during all of the period in the future during which plant will be retired. We cannot determine them definitely. We do know from experience, we have had fluctuations in price levels, and we have had fluctuations in wage levels, and we know that those things are likely to balance out; so that all we are getting at is an estimate of an average amount of salvage which will be recovered. Now that is the most practical way to get at it. If we knew of any better way of getting at it, we would use that way.

Now when you come to a building, you have got a dif-

3490 ferent situation. We have got to look ahead to what we are going to do with a particular building, or with

a group of buildings, and determine average depreciation rates on the basis of what we expect to do. I do not think the principles are inconsistent, because I do not think they relate to the same thing.

"Mr. Goldstein: But in the quotation which I gave you from your testimony, the factor which you used to balance the additions, which will accrue in a period of high prices, is the fact that when you are taking out the plant—one portion of the plant, you are getting new plant.

"Now why do you not take that same factor into account, namely, that when you are paying high prices, when you are having the additions in the later portions of the life of one building, you will have new plant which will have a low
3491 depreciation rate. Why do you not take the same fact into account?

"A. Well, here is the answer to that, Mr. Goldstein: What we are doing is, determining to the best of our ability a depreciation rate, and average depreciation rate for each building, so that when a building drops out of the picture, we can drop it out of our studies of depreciation rates. We cannot come into a case with buildings included in a study of depreciation rates which have been retired 10 or 15 years ago. We must determine rates for existing buildings. Well, it seems to me the two things are just entirely unrelated.

"Q. But you determine salvage on existing buildings, or salvage on existing equipment, in a certain manner, because you say that you take into account the fact that when the time will come to realize that salvage, you will have the effect of new plant, and I am asking you, why do you not adopt the same reasoning when you establish the rate on the building, which takes into account the effect of life, that at
3492 the time when the building will go out of service, you will also have new plant that will come into service.

"A. You are talking about new plant in another building now, are you not?

"Q. Yes.

"A. Well, I just explained why we do not do that; it is because of the fact that we set up depreciation rates for individual buildings, as far as we can."

In some cases we set up salvage rates for individual buildings, and in those cases that we do set them up, the principle which I have just stated, and which counsel quoted, does not apply. As a matter of fact, in most cases where salvage studies are made for individual buildings, an estimate is made of the salvage that will be derived from the particular building. In connection with that we do not use the uniform cost level. I think it is rather hard to say whether we ever used the uniform cost level for a single building because going over a period of years in the past, there have been a lot of different methods used in determining salvage percentages. In a good many cases, the estimates have been made on an over-all basis for a whole group of buildings, based to some extent upon past experience, and to some extent upon consideration of different cost levels prevailing
3493 at the time. As far as I know, no study has been made on a level cost basis for salvage in the case of buildings.

I was trying to determine the other day whether we ever had issued any bulletins to the Illinois Bell covering the method of determining life of central office equipment and buildings. I do not believe we have; I think that matter was discussed in conference in New York, and then my testimony before the Interstate Commerce Commission was sent to all of the companies. I do not believe there were any bulletins issued on it.

I used in my direct testimony an analogy of Aerial Cable Plant as another example of group accounting. The
3494 principle of that example is comparable to the situation in the case of central office equipment and central office buildings. It is not quite correct to say that, in the case of Aerial Cable Plant, our entire investment is a present investment. What we do in the case of Aerial Cable, and also other classes of plant, is just this: We consider the plant placed, we will say, in one year or in one group of years, as the group of plant. We determine an average life for that group of plant. Now, when you say, is that not confined to the present plant, that is not quite correct, because the present plant consists of survivors of those groups.

In the case of Aerial Cable Plant, we are dealing with the existing investment, plus the investment that we had made 10, 15, or 20 years earlier which had been retired, and the cost of which we are still accumulating during the last
3495 surviving item of that plant. In the case of Aerial Cable with an assumed investment 20 years ago of $100,000, 5 per cent of which was retired 19 years ago, and 5 per cent each year during the 20 years, to the present time, we are still accumulating a portion of the cost of the plant which was retired the first year, plus the portion of the plant that was retired each year to the present time. In the case of Aerial Cable Plant, we have no problem whatsoever of after acquired property. We do have the problem in the case of Aerial Cable Plant of accumulating through the depreciation rate today moneys to compensate the company for plant which had
3496 been retired many years ago, and does not now appear in the plant account; that is the basis of the group accounting plan. In the case of Aerial Cable Plant, when we retired that 5 per cent, we will say, 19 years ago, we took out of the depreciation reserve its cost. We took out its cost from the depreciation reserve before we had accumulated the money in the reserve to cover the cost of that particular plant.

I should say that the growth of the depreciation reserve in relation to the growth of the property is not an indication of the correctness or the incorrectness of the annual
3497 depreciation charges. I never use the depreciation reserve as a check on our annual depreciation rates. I think that is true throughout the Bell System, including the Illinois Bell. You cannot check your rates by referring to your reserve in any way at all.

In depreciation accounting the effect of the straight line depreciation charges is to build up a reserve in connection with each class of plant for which the depreciation is taken. The reserve is intended to compensate in part for the ultimate retirement of the several units from the fixed capital account. The reserve, set up for a group of plant units, is ultimately

consumed through charges to the reserve concurrently with credits to fixed capital when those units are retired.

3499 On January 1, 1929, the method of accounting for Aerial Wire was changed. Drop wires were eliminated from the classes of depreciable property. Prior to that time the accruals which were made by some of the companies for drop wires were made on the basis of taking care only of the occasional extensive replacements. Now, in addition to that, there was a change in the classification of drop wire. Some companies had treated only the last span, the span from the pole to the subscriber's premises, as drop wire, while others had treated the wire all the way from the cable terminal

3500 to the subscriber's premises, as drop wire. I believe that up to January 1, 1929, in Chicago the last span was classified as drop wire, and that from the cable terminal to the last pole was classified as line wire. I am not sure of that, but I think that was the situation. In 1928 drop wires were taken out of the depreciable property, and became a part of the maintenance.

I do not know that there was any depreciation reserve which had been accumulated prior to 1929, with respect to drop wires. There was depreciation expense charged during that period, but not to set up a reserve against the ulti-

3501 mate retirement of that drop wire. There was a depreciation rate used for covered line wire. There have been no accruals since the beginning of 1929 for Exchange Aerial Wire in Chicago. The reason for that is the changes in the classification that we were just talking about. There were accruals in Chicago prior to 1929 on account of the line wire portion. It is my understanding that no depreciation rate was used for the drop wire portion of our covered wire at any time during this period. There has not been an accrual since 1929 on line wire. That is due to this change in the classification that I just spoke of. If there is any bal-

3502 ance in the depreciation reserve in connection with line wire, it is still in the reserve account. I have my own doubts as to whether there is any line wire balance there, however.

I made the following statement before the Interstate Commerce Commission in 1928:

"Before discussing these methods, I wish to direct attention to one factor which, more than any other, affects the service life of most of the classes of telephone property, at least in the larger companies. This factor is growth growth in the number of subscribers, growth in the use of the telephone and growth in the requirements as to plant facilities resulting therefrom.

"Growth eventually causes buildings, central office
3503 equipment, cable and other classes of plant to become inadequate and, in most cases, is the largest single factor affecting their service lives.

"It is not the only factor, of course, and its effects cannot be isolated from those due to others, but it is the largest single factor."

In the same hearing I was asked the following question and made the following answer:

"Question: Does the volume of the telephone business fluctuate with business conditions to any extent?

"Answer: It does to some extent, yes, sir, but not to a considerable extent."

3504. I also made the following statement:

"To sum up my views on this point, I do not think that the average service life of a class of existing plant can be determined with absolute precision, nor do I think that it should be expected that a conclusion as to what this life will be should be susceptible of exact proof.

"I do believe, however, that a competent man who is familiar with the property in question, who has ascertained the facts shown by the experience of that property and who knows the forces and conditions now present and in prospect, can forecast the average service life with a reliable degree of accuracy.

"The determination of service lives is not a mechanical process. It is not a matter of computation alone, but is a combination of the determination of facts based on actual experience and the tempering of these facts

in the light of the best engineering judgment as to the probabilities of the future.

"The result cannot be demonstrated to be mathematically accurate, but, as stated in the Commission's order, it is not essential that absolute accuracy be achieved to serve the purposes of depreciation accounting."

3505 I was also asked the following questions and made the following statements:

"Question: Before you go into that let me ask you a question I asked some of the railroad witnesses, that is, with respect to the so-called obsolescence. Is it or is it not the experience of your engineers that you can see a change in type of property on the horizon before it arrives; in other words, that you know a certain type of property is becoming obsolete before that condition actually comes or it actually does become obsolete?" (Question by Commissioner Eastman to Mr. Woodford.)

"Answer: Wherever changes are made in types of property we can foresee those changes generally a good many years in advance. Furthermore, in making changes from one type of material or apparatus to another the process is generally very gradual and extends over a long period of years, so we can forecast what the effect of those changes is going to be.

3506 "Question: In other words, you can see a change in the art coming before it actually arrived?'

"Answer: Yes, sir.

"Question: (By Mr. Bell.) May I ask you a question before you proceed? You carry on your own experiments, do you not?

"Answer: We have a Research Department which is continually experimenting, yes, sir.

"Question: You yourselves primarily bring about the changes that happen in your particular art, do you not?

"Answer: Yes, sir. I think they are primarily due to our developments.

"Question: Of course, you know what you are doing yourselves?

"Answer: Yes, sir."

Also the following statement was made by me in speaking of uniform cost levels:

3507 "Answer: In some cases it is possible that the use of such percentages would obviously produce incorrect results, and, if so, of course some other method should be used. That is just saying again that the determination of salvage percentages, like the determination of service life, is not a mechanical process but requires the exercise of judgment.

"I do not want to leave the impression that this thing was a purely mathematical proposition without requiring the exercise of judgment."

Also the following questions and answers:

"Question: (By Commissioner Eastman.) What is the range of service life estimated in the case of these main line conduits?

"Answer: The range is in the order of 50 to 60 years at the present time, yes.

"Question: 50 to 60 years?"

Then a question by Commissioner Eastman:

"Question: So far as that group 1 is concerned, I take it you feel more doubt with respect to the service 3508 lives that you estimate in the case of those classes of property than in the case of any of the other classes; is that right?

"Answer: Yes, sir. That is why I put those classes into one group by themselves.

"Question: It is largely a question in the case of those classes of property of judgment as to the future rather than any experience of the past?

"Answer: It is largely a case of judgment based upon the experience which we have had with other classes of property, yes, sir. That is, we cannot in many cases determine service lives on the basis of the experience of the particular classes of property in this first group. That is, on the basis of their own experience."

I also made the following statements:

"The retirement of station apparatus is brought about principally by moves of subscribers, although retirements also occur because of change in type of service, such as from magneto to common battery and from manual to dial, and because of changes in type of apparatus, such as from desk stands to hand sets. Also losses of station apparatus occur to some extent by rea-
3509 son of fire."

"In answer to one of Commissioner Eastman's questions yesterday, I think I left the impression that the soundness of that hypothesis could be checked from our experience, and that lacking such a check the hypothesis was open to question. That is not the case.

"The basis for my opinion that substantially correct results will be produced is the fact that the average costs of our plant are close to present cost levels, and at the present time I see no reason to believe that there will be substantial variations from these cost levels."

3510 In connection with A-203: I have said that the basis of life and salvage, the principles, are the same in all Bell companies. It would not be necessary to know the extent to which other companies have calculated future additions in order to determine how they arrive at life as to central office equipment and buildings in other states. I have said they arrive at average life in the same way as is done here in Chicago. Whether or not an amount which would be
3511 sufficient for another company would be too high here, or an amount which is sufficient here would be too high for another company, would depend upon the factors which would determine the judgment of the respective companies as to the length of life of the initial construction, and the rate of growth in the future which would justify additions. The depreciation rates will vary as the conditions vary, but the principles upon which they are established are the same. Unless the conditions in the balance of the system were known to be the same as in Chicago, the fact that they had a certain depreciation expense in another company, which was

lower or higher than Chicago, would not in any wise determine whether the Chicago rate was too high or too low, or theirs were too high or too low. You cannot prove the Chicago rates are correct by comparison with other companies. All you can do is to show how the rates do compare with the other companies.

The significance of Exhibit A-203 is that it shows that last fact, how the rates of Chicago do compare with the rates
3512 of other companies. What this exhibit shows is this: That, taking this entire period in all of the companies, the rates in Chicago have been substantially the same as the rates in the other companies, there being fairly sizable variations between individual companies and Chicago.

We have not made available to defendants the studies in the balance of the system which show the factors upon
3513 which judgment was exercised in each of these companies in determining the depreciation rates. We could not make them available to defendants.

The rate of growth would be an element that would have to be taken into account in fixing the depreciation rate. It would be an element which would affect the depreciation rate. In order to get the significance of any depreciation rate anywhere, whether Chicago or anywhere else that is one of the factors that would have to be taken into consideration.
3514 The rate of retirement is another factor. Other factors are: the history of each company as to the purchases of going telephone plant, the condition at which it was entered on the books, and the amount of depreciation reserve which was set up on the books with respect to such purchases. I don't think the same thing would be true as to data as to sales of going plant. Ordinarily, plant which is sold is excluded from our depreciation studies. Growths of the depreciation reserve, and the net charges to the depreciation reserve by primary plant accounts for each year would have to be
3515 taken into account. Another factor would be the extent to which other companies took into account the fact that on account of the depression there would be a deferment in these additions.

The varying amounts of investment in central office equipment, such as manual and dial, central office buildings, manual and dial, has all been considered in setting up this exhibit. If you were making an examination of salvage percentages by classes of plant for all other companies one thing that you would need to know is the policy of each of the other companies in respect to the re-use for its own equipment and material.

3516 A-203 is a comparison of rates for the Chicago area with the rates for the entire areas of the other companies and not a comparison of Chicago area with New York City or with any other large city.

Re-direct Examination by Mr. Bracelen.

In testifying before the Interstate Commerce Commission, in the depreciation case to which Mr. Goldstein has referred, I was the engineering witness on the subject for the Bell System Companies. Mr. Manson, of the New England Company and Mr. Brooks of the Southern New England Company were called in to present specific application of the study method which I have described. With that exception, I was the only engineering witness representing the Bell companies in that case.

3517 In the course of the cross-examination, Mr. Goldstein read to me certain parts of my testimony before the Interstate Commerce Commission, among others the testimony which I will characterize generally as being to the effect that in the Bell System we are generally able to look forward a longer or shorter period of time and foresee developments in the art, which bring about changes among other things in the types of equipment used. Mr. Turner has already pointed out that in the case of a manual central office, the Illinois Bell Company here in Chicago foresees, and has definite plans for the substitution of a dial central office to take the place of the present manual central office equipment. That situation is common to practically all the large cities in the

Bell System. In the meantime, in the intervening 5
3518 years or 10 years between the present time and the projected substitution of the dial office, the company goes ahead and does whatever is necessary in a manual office; if it is necessary to add equipment, it does it. It adds manual equipment. The Western Electric Company continues to manufacture and sell the manual equipment. The additions that I speak of are necessary in order that the telephone users may continue to have telephone service at that office. The company obviously cannot discontinue buying and paying current prices for the new kind of equipment because something else is expected to come into use a longer or a shorter distance in the future. If they need to make additions, they have got to get the equipment to make them with.

It appeared in the exhibit showing the historical data and the projected data for the Kedzie office, that although
3519 for some years the Kedzie office has been scheduled for retirement here in Chicago in 1936, the Company has been adding large amounts of investment to that office for the existing type of manual equipment. That may be taken to illustrate what happens in cases of any and all classes of plant, so far as prospective improvements that we foresee are concerned, except that in the case of classes of plant other than building and central office equipment, the additions of plant are not linked with something which has been placed before. We have the same situation, of course, in the case of the replacements of existing items, as they have to be retired for one cause or another.

"Mr. Bracelen: I offer in evidence Exhibit A-203.

"Mr. Goldstein: We move to strike the evidence of Mr. Woodford, the testimony of Mr. Woodford, on the same grounds that we have stated in connection with our motion to strike Mr. Turner's testimony and exhibits, and on the additional ground that on his Exhibit A-203, plaintiff did not make it available to the defendants, and there is no way that we can check the conditions in the balance of the System,
3520 and the fact from which we could make such determination as contained in the provisional estimates and the

M. R. reports were refused to us until the offer was made the other day, and the terms of the offer were such that, as a practical matter, it is impossible for us to make use of them in connection with this work, and, therefore, so far as we are concerned, the evidence, the data, applicable to the balance of the System which we consider essential as a condition precedent to his offer, has been refused to us:

"Mr. Bracelen: Of course, your Honor, the offer which we made the other day stands in connection with the testimony of this witness precisely as it was made. Now, I understand that Mr. Goldstein, pursuant to the offer we made in court recently a few days ago, has indicated to us the particular figures and facts that he desires to take off these various reports, and that examination of a part of the reports is going forward, and I expect this afternoon to check over the specifications that Mr. Goldstein has given to Mr. Jones in connection with the whole subject, and let Mr. Goldstein know whether any part of the information he seeks will be withheld from him, so that a ruling by the Court will become necessary.

3521 "Mr. Goldstein: So that our position will be clear, for one solid year there has been a demand upon the plaintiff to make available to us this very information, in the light of the Supreme Court's opinion, which asks that the inquiry taken into account the balance of the System, under comparable conditions. In the face of the fact that we went before this Court on motion, and they argued that there was nothing in those that was pertinent; in view of the fact there are thousands of pages they have now given us, and as a practical matter with the closing of this case, it is impossible for us to make use of this information—the tender they are now making, in our opinion, is, as a practical matter, no tender at all, and we consider it the same as if it had been a refusal, because there is not a ghost of a chance to make use of a single figure there, so as to present any kind of a case, when for a solid year, or a year and a half, they had knowledge of the opinion which called for it. We made repeated requests, and we came before this Court on motion,

which was twice argued, twice they resisted, and now at the last minute they cannot throw ten thousand pages on us, and say that is a proper offer.

3522 "Mr. Bracelen: Of course, ten thousand pages—

"Mr. Goldstein: We will bring them in if there is any question.

"Mr. Bracelen: That ten thousand pages is an overstatement.

"Mr. Goldstein: We will bring them in tomorrow.

"Mr. Bracelen: Now, if the Court please, not for a year, or for a year and a half, but since some time early in November last, the defendant city has been demanding that we make a disclosure to them of practically every fact and figure pertaining to the detailed operation, plant and business of each one of the operating units of the Bell System, from the year 1920 down to date. It is not until within a few days that they have been willing to point out in these records what they say is of any materiality or relevancy in this case. Until two or three weeks ago, their demand was a sweeping demand for everything; it was properly resisted by us, and properly denied by the Court. If there has been any delay down to this time, it has been due to the fact that they would not say what it was that they claimed had any bearing on this case, so that we and the Court were confronted with the alternative of opening this case up, to bring into it the operating

3523 facts, figures, of every kind, as shown on all of these reports, for all of these companies, for all of these years.

"Now, the Court's observations about that are upon the record. The point now is that within the past few days Mr. Goldstein has been going over these reports, all of which have been laid fully and completely before him, and he has designated within the past three or four days the particular facts and figures he wants, and has been engaged in that work as late as yesterday, and his work has not been held up.

"He stated in the first instance that he would write us a letter, in which he would set forth all of this information, and we waited a day or two for the letter; then Mr. Goldstein explained to Mr. Jones that he had been very busy on other

phases of the case, and Mr. Jones might rely upon a memorandum that he had made at the request of Mr. Goldstein when the preliminary examination of the report was being made for the purpose of designating what they wanted. Now, that I have not had time to check, and will not have time to check until this afternoon. But I say his work upon the reports has not been delayed at all.

"Mr. Goldstein: I just want to say that with reference to the so-called details of operating results, as Mr.
3524 Bracelen calls them, every fact as to revenues, expenses, plant and depreciation on those reports, the plaintiff itself has made use of in connection with its license contract, in connection with the depreciation. Yet we were not allowed access to those records on the ground that we would be on a fishing expedition. Now, how could we ever determine what we desire to have from those records, in the face of their refusal to even give us access to look at them, and the requests I am now making of the plaintiff, so that the plaintiff will know it, are only those minimum requests which we feel we can at least make use of in the two or three days we have available within which to prepare our case. But it is an utter impossibility to make use of those reports of thousands of pages for these companies on the subject matter of depreciation, on the subject matter of license contract, which they themselves opened up by taking the experience of each of the companies involving revenues, expenses, plant, and depreciation.

"Mr. Bracelen: That has become an impossibility, evidently, since the matter was presented to your Honor a few days ago, when they were still pressing for exactly what they are asking for now.

3525 "Mr. Goldstein: We are going to take what we can use, certainly.

"Mr. Bracelen: Very good. They will take what they can use. They have it all laid before them, and I will report to them, and if it becomes necessary report to the Court whether we think they should be refused anything that they are asking for.

"Mr. Goldstein: We don't intend to keep this case open until we can go through a lot of things, because it is our understanding that this case is to proceed, and we agreed to it.

"Judge Wilkerson: It is to proceed.

"Mr. Goldstein: That is right.

"Judge Wilkerson: The case is to be closed before the summer adjournment.

"Mr. Goldstein: And it was with that in view that I made my request.

"Judge Wilkerson: We have all made our arrangements accordingly, and if you don't go through with that program, I don't know when we will finish the case. Now, the record, of course, shows the motion that was made by the defendant for the inspection of documents.

"Mr. Adcock: That was argued four weeks ago.

"Mr. Goldstein: That is right.

"Judge Wilkerson: It shows the ruling of the Court, 3526 on the motion, it shows the renewal of the motion for the inspection of documents, and the replies that were made to that during the progress of this trial, as the evidence has developed. Your motion now is to strike the testimony of this witness?

"Mr. Goldstein: Correct.

"Judge Wilkerson: I will overrule it at this time. I understand that these documents are available? You say you cannot use them?

"Mr. Goldstein: Well, within the period. If we attempted to do anything on depreciation now with those documents, it would take us weeks. In the first place, we would have to transcribe—we haven't got the right yet to take a figure off, we don't know.

"Judge Wilkerson: Yes.

"Mr. Goldstein: But assuming we get that—

"Judge Wilkerson: We will not halt the case.

"Mr. Goldstein: No.

"Judge Wilkerson: That much is certain, we will not halt the case. We will proceed with the case. I will not strike

the testimony. It remains to be seen at the close of the record what disposal the entire Court will make of the testimony, in the light of the record as it has been made.

3527 "Mr. Bracelen: They may have all of the depreciation facts. That may be disposed of now. I hope this situation will not develop, your Honor: That counsel will not proceed immediately to take these facts from these reports, and then come in and say later that our testimony must be stricken because they have not taken these facts and figures from the reports. Now, they are available to them, they have been taking such facts and figures as we have used, and Mr. Jones now advises me that specifically we have tendered to Mr. Goldstein the data used by Mr. Woodford from the reports. During the afternoon I will let Mr. Goldstein know with respect to each of the items listed on any of these reports, whether we have any objection to his taking them off.

"Mr. Goldstein: We worked Saturday, Sunday and Monday, we are working day and night, and we will continue to work on these records, as we have in the past, consistent with our primary obligation to proceed with this case.

"Mr. Bracelen: It is only within a few days that they have finally recognized that they must—

"Mr. Goldstein: We could not tell, until we looked at your documents what we wanted.

3528 "Mr. Bracelen: They have had the forms of reports which show exactly what is included in them, since away last fall. That is shown by the motion that they presented to the Court, and argued to your Honor and Judge Evans, on November 3rd; it is shown by the depositions which were taken in New York, and which are here in the record. They have known for a year, more than a year, exactly what each one of those reports shows.

"Mr. Goldstein: And you have known for a year what facts contained in there were pertinent to depreciation and to the other evidence that you offered as part of your case, and you withheld that, and stated to this Court that we were on a fishing expedition, in looking at any part of the exhibits, or any part of those records.

"Mr. Bracelen: And the Court properly so held.

"Mr. Goldstein: Under the facts as represented to him, certainly.

"Mr. Bracelen: There cannot be any question about the soundness of that ruling by the Court. If there was ever a fishing expedition, they were engaged in such an expedition.

"Mr. Goldstein: But you brought up the fish.

3530 "Mr. Bracelen: Now, if the Court please, Mr. Haight and Mr. Goldstein have called my attention to an article appearing in the Bell Telephone Quarterly, issue of October, 1929, beginning at page 259, entitled "The Straight Line Depreciation Accounting Practice of Telephone Companies in the United States", this being a paper presented to the International Congress on Accounting, in New York, September 9 to 14, 1929; the article being by Mr. Belcher and Mr. Crunden, of the American Telephone and Telegraph Company, both of whom have been witnesses in this case. Counsel for the City have said that they desire to offer this article in evidence. I have stated this morning to Mr. Goldstein that that may be done without objection by us. I refer to it now, your Honor, for this reason: Mr. Goldstein and I have discussed this this morning, that upon the understanding that the defendant will offer this article, we deem it unnecessary to put Mr. Belcher on the stand now to give certain additional testimony upon the subject of depreciation and depreciation accounting, since the article which is by him, in collaboration with Mr. Crunden, sufficiently covers that subject, and we dispense with the necessity of taking that testimony

3531 orally.

"Mr. Goldstein: That is correct. We will identify that now as Defendants' Exhibit D-123."

(So marked.)

"Mr. Bracelen: The plaintiff now offers in evidence the entire deposition of Mr. George E. Folk, which was taken in New York by the defendant city.

"Plaintiff also offers in evidence the entire deposition of Dr. George Campbell.

"Plaintiff also offers in evidence the entire deposition of John E. Otterson."

(The depositions of George E. Folk, Dr. George A. Campbell and John E. Otterson, last above referred to, were accordingly received in evidence and made a part of this record.)

233 GEORGE E. FOLK, for defendants:

Direct Examination by Mr. Haight.

I reside at New Rochelle, New York; I am patent attorney for the American Telephone and Telegraph Company and have been since 1915; I have been general patent attorney since 1918; from 1915 to 1918 I had charge of the patent division of the American Telephone and Telegraph Company at New York, the main patent department being at that time in Boston. The general patent attorney retired about 1918 and I took his place, moving the office to New York.

234 In handling the patents we follow the system of classification that the Patent Office has. We make no attempt to classify the patents themselves. We do not attempt to classify the applications according to any subject matter after the patents are issued. We keep our files in exact conformity with the Patent Office so that when we make a search we have the same files that the Patent Office has to make the search with.

235 We have means of telling from our records how many patents we have relating to some specific subject matter. With respect to radio, we could look through our files and pick out the ones that have been assigned to us which would require an examination of the patents themselves.

The American Telephone and Telegraph Company owns or controls about 8,000 U. S. patents, and about 2,000 applications pending. That includes patents of Western Electric. In my department we do not handle the patents of Western Electric. About half the 8,000 patents are owned by the American Telephone and Telegraph Company and about half

236 by Western Electric. There are some patents that we control, but do not own such as De Forest patents, under which patents we have exclusive licenses except for certain non exclusive rights reserved to the De Forest Company itself. The De Forest patents relate largely to the vacuum tube and its uses, circuit arrangements which are applicable to
237 both wire and wireless telephony and telegraphy. The original De Forest patent on the vacuum tube which was basic to the tube structure, has expired. There are various circuit arrangements used in the system quite extensively, such as for the generation of high frequency oscillations, or for detectors or modulators. The principal one relates to the generation of high frequency oscillations. They are used in the radio art but not exclusively. They are used in the arts of wire telephony and telegraphy.

The Western Electric patents in the main relate to what are called by us as telephonic appliances, as distinguished from those patents which relate to the creation or modulation or improvement of the speech itself. For example, a patent on a switch or switching mechanism would be a Western Electric patent. A patent on a switchboard would be a Western Electric patent. A patent on a call bell. Those are examples of the kind of patents referred to.

238 Patents owned by Western Electric cover apparatus manufactured by it. There are other patents owned by the American Telephone and Telegraph Company that likewise cover apparatus manufactured by Western Electric. Other companies and Western Electric own patents under which others manufacture for us or for the associate companies rather than Western Electric itself doing the work.

239 Some of the patents owned by the American Telephone and Telegraph Company that are applicable to communi-
240 cation over wires would also be applicable to communication by wireless telephony. Some of the patents that are applicable to communication by wire telephony are also applicable to communication by wireless telephony or by wire telegraphy or by wireless telegraphy. Some of the patents also relate to apparatus that is used in connection

with wire telephony systems such, for example, as earth boring machines, such as are used for digging post holes for telephone poles.

I have no doubt some of our patents cover public address systems and undoubtedly some cover apparatus used in talking movies.

241 We have a list of our patents and if we have reason to believe that any of them are infringed by apparatus, when we notice them being put on the market, we quite frequently write and call attention to that particular patent.

If there were in the room a switchboard manufactured by Western Electric, our records would not show patents whose inventions are embodied in the switchboard. If any records would show it, it would be the records of the Bell Laboratories, and I do not know to what extent they keep those records. My records would not show what patents cover local exchange service and what cover inventions embodied in long lines.

I do not recall any suit that was instituted by the American Telephone and Telegraph Company or against it involving infringement on patents on transmitters, receivers and induction coils.

242 The records of the Boston office go back much further
243 than 1915. I will check back on our records for twenty years and see whether there is any suit brought by or against the American Telephone and Telegraph Company involving infringement of patents on receivers, transmitters and induction coils.

Foreign patents are obtained on inventions that come to my department for handling. It is true of the American Telephone and Telegraph Company and also of Western Electric. The American Telephone and Telegraph Company, however, does not take out the foreign patents. Those inventions are offered to companies which have contract relations with the American Telephone and Telegraph Company. The offer is made through the Laboratories.

244 Inventions covered by foreign patents and made by

employees of American Telephone and Telegraph Company were made available to International Western Electric. Prior to the organization of the Laboratories that was handled through the Western Electric and since the organization of the Laboratories up until the contract with the International that work was done by the Laboratories.

245 We have records of patents we have purchased.

I have heard of the term "by-products" as it is used in the Bell System.

With reference to patents owned by the American Telephone and Telegraph Company covering inventions relating to by-products, there has been litigation. Suit was brought by Western Electric and E. R. P. I. against infringers of talking motion picture apparatus and some of our patents were involved in that litigation. Among those patents involved in that litigation there were some owned by the American

246 Telephone and Telegraph Company as distinguished from Western Electric. The suit, however, referred to was against the Pacent Electric Company. I think the suit is on appeal at present in this circuit in the Southern District of New York. I could give you the information in a little while as to the patents involved in that suit. I can only recall one now, namely, the Loewenstein patent on the negative grid.

247 This company has granted certain rights to the General Electric Company and radio companies associated with it and there have been suits brought by those companies under patents owned by the American Telephone and Telegraph Company. Those patents relate to broadcast receiving sets or to vacuum tubes.

We have complete records of contracts granting licenses under patents of the American Telephone and Telegraph Company. There are agreements between the American Telephone and Telegraph Company and Western Electric concerning patents, the invention of which are embodied in products sold by E. R. P. I., but I think the contracts are in

248 the form of letters principally. I think there are no contracts directly with E. R. P. I. as distinguished from Western Electric, but there may be some with both.

I do not recall that we have ever handled any patent applications on inventions made by an employee of Bell Telephone Laboratories. We have received assignments of patents on applications filed on behalf of employees of the Laboratories.

Those inventions relating to what we call telephones have been assigned to the American Telephone and Telegraph Company, the theory being that in any event, whether they went to Western direct or to the Telephone Company direct, they would ultimately rest in the American Telephone and Telegraph Company.

249 I do some work in connection with the purchase of patents by Western Electric. Since we are interested in telephonic appliances, having exclusive right to use those inventions, we are naturally consulted when patents are purchased.

The records of our department do not show whether the inventions embodying patents come from employees of the American Telephone and Telegraph Company, from the Laboratories or from subsidiaries in the Bell System, but that could be obtained by checking off the names of the inventors and finding out in what department they were employed at the time.

GEORGE E. FOLK, recalled:

799 *Direct Examination by Mr. Adcock.*

With respect to induction coils, receivers and transmitters, there are no infringement suits pending and none have been brought against American Telephone and Telegraph Company or any of its subsidiaries or associated companies since my connections with the company.

Cross Examination by Mr. Blackman.

I have found, however, that there have been some liti-
800 gation or controversies concerning those matters. There was litigation with Frederick R. Parker of Chicago. On May 20, 1913, a patent was issued to Craft & Reynolds, No. 1,262,082, and assigned to American Telephone and Telegraph Company. The patent related to the present standard telephone receiver having a permanent steel magnet with soft iron pole pieces. After the patent was issued and after the device had been standardized and placed in extensive use, Parker provoked an interference suit in the Patent Office with a patent of his which was then pending and attempted to get the claims of the patent for himself. The case was finally disposed of by the Court of Appeals of the District of Columbia in favor of the patentees. This matter might have been of very serious consequences by reason of the enormous number of these things in use, being practically universal in the Bell System. In some cases there have been threats of infringement suits where we have settled without the necessity of suits being brought.

801 The litigation referred to was terminated in 1916 or 1917. My department has a record of the patents owned or controlled by American Telephone and Telegraph Company or Western Electric, but that list does not distinguish between those which originate in the System and those which are purchased from outsiders. We do have a separate list of those patents under which we are licensed from others.

About 1910 a very systematic and determined effort was undertaken to acquire certain rights in outstanding patents relating to automatic telephony, in order that our Research and Development Department and Engineering Departments might be free to develop whatever they determined should be desirable or necessary. As a first step in that direction
802 the Lorimer-Lundquist patents were purchased in 1911 for the sum of $650,000. These patents related to trunk selection and group selection in automatic telephone exchange

system, which is a feature of all telephone panel type apparatus inventions used in all multi office automatic exchanges, especially in large cities.

Next, in the following year, and again a few years later, the patents of the North Electric Company were purchased in some cases and in other cases, licenses acquired, the price paid being $725,000. This was followed in the same year, and also in the same year 1916 by purchases from the Stromberg Carlson Telephone Manufacturing Company, the price paid to that company was $250,000. The purchase was of patents in the one case and licenses in the other. I might say that whenever licenses were acquired, there was always a cross license arrangement, in which we paid, in addition to giving licenses under our patents in certain fields and the purchase price mentioned. The Stromberg-Carlson price was $250,000.

About the year 1913 the patents of the American Automatic Company were purchased for the sum of $75,000, which related to signaling over two wire circuits. From 1916 to 1919, inclusive, at various times in each year, licenses were exchanged with the Automatic Electric Company and Automatic Electric was paid in money the sum of $2,000,000 in addition. Licenses were exchanged with the Kellogg Switchboard & Supply Company and in addition $250,000 was paid.

When I say exchange of licenses, licenses relating to automatic telephone, I mean licenses were given and received.

In 1930 licenses were acquired by American Telephone and Telegraph Company and Western under the patents of H. N. Friendly, some relating to automatic telephony and among other things relative to straightforward trunking, and $700,000 was paid for them.

804 In addition to purchasing patents outright, we have acquired licenses under approximately 100 groups of patents covering almost every feature of telephony. Each group I mentioned related to the automatic switch field but not exclusively to that field. The policy of American Telephone and Telegraph Company has been to supplement the activities of its own D. & R. Department by the purchase of any

patents that might be useful in such development work or that might interfere with such development work, which accounts for the extensive purchases from time to time. Before apparatus is standardized and before patent release is given, careful search is made to ascertain whether any patents which would interfere with such use, exist, and if any are found, an attempt is made to acquire such rights as would be necessary. In some cases the attempt is made in order
805 that the development work in its initial stages may be unhampered by the necessity of having the men's attention directed to those patents.

Almost invariably when we standardize a new type of apparatus, some claim of infringement is made by somebody. Frequently the claims are without merit but sometimes we find they are meritorious and we endeavor to clear the situation by acquiring the rights, avoiding litigation and controversy. Of course we have the risks that everybody has of some application for patent being pending in the Patent Office, of which we would know nothing until the patent is issued. But in spite of all our precautions, infringement suits have been brought.

Suit was brought against this company along about 1919 or 1920 by General Owen Squire under his so-called "Wired
806 Wireless Patents", claiming that our new development in carrier current telephony and telegraphy infringed those patents. In that litigation we were successful. There was a suit brought by Peter Cooper Hewitt when American Telephone and Telegraph Company adopted the three-element vacuum tube as a repeater, Hewitt having patents relating to mercury vapor vacuum tubes which had claims in them reading on the three-element vacuum tube. Suit was brought and we were successful in that.

Frederick R. Parker, who was mentioned before, brought suit in 1915 against the Chicago Company for infringement of a patent relating to a signal lamp in the main circuit. We settled this matter by obtaining licenses for the Bell System under the patent before suit actually came to trial.

At present we have two pending suits of considerable consequence brought by the Kellogg Switchboard & Supply Company against American Telephone and Telegraph Com-
807 pany and Michigan Bell Telephone Company at Detroit and a similar suit brought against American Telephone and Telegraph Company and New York Telephone Company at Buffalo, in which there are eleven patents involved, Kellogg Company claiming infringement by reason of straight forward trunking employed in every exchange throughout the System and especially in large cities. There are two suits against the New York Company and two against the Michigan Company.

In the other suit involved is a claim of infringement of patents by reason of the use of our No. 11 switchboard, which has various features claimed by the Kellogg Company as covered by its patents, such things as automatic disconnect. The No. 11 switchboard is in very extensive use throughout the country. The matter is one of serious consequence if the claim of the Kellogg Company should be found to be correct. We do not believe that we infringe, and we are defending those suits. Testimony is being taken on such a scale that it seems it is going to be almost of monumental size so far as the record is concerned.

808 Before suit was brought, the Kellogg Company offered licenses to American Telephone and Telegraph Company and the offer as finally made was that American Telephone and Telegraph Company pay $5,000,000 in cash to the Kellogg Company for the non-exclusive license and in addition, give non exclusive licenses to the Kellogg Company under American Telephone and Telegraph Company patents, and that American Telephone and Telegraph Company should guarantee to the Kellogg Company $100,000,000 in business to be given over a period of 20 years at the rate of $5,000,000 of business each year, the business to be on a cost plus 20 per cent basis and related to telephones and switchboards. A penalty of $1,000,000 a year was to be paid for years in which the American Telephone and Telegraph Company failed to give that amount of business.

While obviously this is an extravagant claim on the part of the Kellogg Company; it does indicate what they consider the seriousness of the situation, and the nature of the undertakings we have to make to defend our associate companies and save them harmless from the use of apparatus when used by these other companies.

809 The development of the field of radio was responsible for my being with the company, and I have been rather closely connected with the development of the patent situation in the radio field. That familiarity extends to the patents of the General Electric, Westinghouse and other companies.

There is no clear line of demarcation between radio and certain modern wire development. The three element vacuum tube has frequently been referred to as the heart of radio. It can with equal truth be referred to as the heart of carrier current, wired telephony and telegraphy. As in radio, this tube is used for amplifying currents, generating frequencies, for modulating frequencies, for splitting up frequencies, for detection or demodulation.

The same is true with reference to carrier currents, wire telephony and telegraphy. Practically the same type of apparatus is used. Certainly, so far as the patents are concerned, there is no distinction whether it is a wired or wireless device.

810 A number of the developments in wire telephony and telegraphy have been carried over into the wireless art. Our wave filter patents which were gotten up primarily for wire work are extensively used in the wireless art, which is true of the attenuation equalizers having their use in the wireless art. Any one working in the one art is working in the other art, but to all intents and purposes neglect to either art is, to a certain extent, neglect of the other art. That would apply equally to the patents of the American Telephone and Telegraph Company, the General Electric and Westinghouse.

854 GEORGE E. FOLK, recalled:

Re cross Examination by Mr. Blackman.

In my former testimony I had overlooked the fact in stating that, we had license agreements with the North Company, that there was still a third agreement in 1923 by which the parties exchanged licenses with each other.

There was another suit pending against American Telephone and Telegraph Company and the Michigan Bell Telephone Company. This suit was brought by the Standard Register Company under seven of its patents and relates to the form feed attachments for teletypewriters. Those machines are used very extensively both by American Telephone and Telegraph Company and its associated companies, and this suit against the Michigan Company is in the nature of a test suit.

There is also a suit brought by the same Standard Register Company against American Telephone and Telegraph Company in New Jersey, we being joined in that suit as contributory infringer, the suit having been brought against the paper manufacturer that supplies the paper used in those machines. I think the suit is pending in New Jersey.

I have also within the last few minutes and just before 855 coming down here, been served with a summons in another suit brought by Thomas B. Dixon against American Telephone and Telegraph Company, Western Electric and E. R. P. I. on patent No. 1,197,470 in the Southern District of New York. We were threatened with this suit but our investigation led us to the conclusion that we did not infringe. I have not examined carefully the bill of complaint, but it is substantially along the lines of the contention made by the patentee in his letters to us, he claiming that a certain patent owned by this company relating to the so-called push-pull amplifier circuit, was covered by the patent on which he has brought suit. That circuit is extensively used both in the wire and wireless art, and is another illustration of the fact that there is no real distinction between the wire and wireless art.

The Dixon patent itself relates to telegraph systems and application.

We also consider the Kellogg suits as test suits.

In the exchange of licenses with North Electric, we
856 acquired certain additional rights in Clements and Mc
Berty patents which are important to us as they cover certain features of the panel switch and of the so called all relay system of automatic and also some features of all metal lic signalling in automatic telephone systems.

Re direct Examination by Mr. Goldstein.

The suit involving teletypewriter inventions mentioned by me involved patents purchased at the time when the teletype writer was bought and also patents that the Western Electric or American Telephone and Telegraph Company owned prior to that time. Before the purchase of the Teletype Corporation there had been an exchange of licenses with the Morkrum Company, its predecessor. Teletype machines purchased from the Teletype Corporation embodied inventions both of American Telephone and Telegraph Company and Western Electric and the Morkrum Company, the particular form feed mechanism involved being a development of the latter company. Since the purchase of the Teletype Company in conjunction with Teletype Corporation we have developed still other forms of feed and all those forms of feed are involved in this controversy. So it is difficult to say just whose patents are involved.

When I speak of patents owned by American Telephone and Telegraph Company or by the Western Electric, I mean those patents to which American Telephone and Telegraph Company or the Western Electric have legal title, as the case may be.

When we had the license agreement with reference to
859 the exchange of patents with the North Electric, it was directly through the Western Electric, though of course

the American Telephone and Telegraph Company was required to assent to that agreement by reason of its exclusive licenses under patents involved.

The North Electric contract involved the Western Electric Company patents owned by the Western Electric Company.

The expense in the 1915 litigation with Frederick R. Parker was not very considerable because the matter never came to the point of taking testimony. We made a motion to dismiss. The patents involved in that suit were owned by American Telephone and Telegraph Company. Those patents which were issued to Kraft & Reynolds related to a receiver in which the permanent steel magnet had soft iron pole piece.

I am not sure whether our records distinguish between pat-
ents owned by American Telephone and Telegraph Com-
861 pany and those owned by the Western Electric. I do not keep those records myself. To a very limited extent American Telephone and Telegraph Company acquires inventions from employees of the associated companies. That is almost a negligible matter. In addition certain inventions relating to telephony are developed by the employees of American Telephone and Telegraph Company. The title to those patents goes direct to American Telephone and Telegraph Company.

In certain cases patents relating to telephones are developed by employees of Western Electric. The title first goes to Western Electric and later the patents are assigned to American Telephone and Telegraph Company.

A third group of patents are those developed by the
862 Bell Laboratories. In that case those patents are assigned directly to the American Telephone and Telegraph Company. Patents relating to telephone as defined by the 1882 agreement between American Telephone and Telegraph Company and Western Electric, are assigned directly to American Telephone and Telegraph Company.

All inventions of employees of American Telephone and Telegraph Company are in the first place asigned to Ameri-
can Telephone and Telegraph Company. If they relate
863 to telephones under the 1882 contract, the title remains

in American Telephone and Telegraph Company. If they relate to telephonic appliances under the 1882 agreement, they are offered to the Western Electric and purchased by it.

In the D. & R. Department there are inventions of both kinds.

Defendants' Deposition Exhibit 189, is entitled "Patents and patent applications costing $1,000 or more purchased by Western Electric Company, Inc., 1909 to 1930," received in evidence.

864 The statements in that exhibit are true.

Defendants' Deposition Exhibit 190, entitled "Licenses Costing $1,000 or more paid by Western Electric Co., Inc., to others than American Telephone and Telegraph Company 1909 to 1930," is correct.

I could furnish a statement showing patents and licenses purchased by American Telephone and Telegraph Company from others outside the Bell System. Also, a statement by American Telephone and Telegraph Company to the Western Electric.

Where American Telephone and Telegraph Company acquired licenses from the companies I named, such as the Automatic Electric and so on, we also gave licenses; that is, there was an exchange of licenses and in addition a certain sum of money paid by American Telephone and Telegraph Company as further compensation.

The cross license agreements between these other companies, American Telephone and Telegraph Company and the Western Electric, were all substantially the same.

867 I am generally familiar with the radio patents and was so familiar in 1920. I participated in the matters involved in the giving of license contracts covering the radio patents between American Telephone and Telegraph Company and the General Electric, dated on or about July 1, 1920, and

868 also the subsequent extension of such license contract.

The contract of July 1, 1920, covered exchanges of licenses. That contract is in existence as it was modified on July 1, 1925. The modification related to some misunderstanding regarding certain features of the previous contract

and to clear up that misunderstanding it was redrafted. The changes were not substantial.

The contract of July 1, 1920, involved the exchange of licenses under two groups of patents. (1) those that had been developed and were then owned by American Telephone and Telegraph Company; (2) those to be developed both through the Research Department of American Telephone and Telegraph Company and the Research Department of General Electric.

I am familiar with the Federal Trade Commission investigation on the radio industry pursuant to House Resolution 548, 67th Congress, and the report made entitled "Federal Trade Commission, Radio Industry," which has been marked Defendants' Deposition Exhibit 191. On page 103 of this report appears a list of patents under the heading "American Telephone and Telegraph Company (including Western Electric Company) patents resulting from its own development work," and on page 105 appears another list entitled "Patents under which licenses exclusive, except personal rights retained by the grantor, were acquired from DeForest Radio Telegraph & Telephone Company." On page 107
871 is another list entitled "Miscellaneous patents acquired from time to time from patentees," and on the same page there is another list entitled "Patents under which licenses were acquired from Atlantic Communication Company."

Those lists were probably furnished by my department or under my direction and I have every reason to believe the facts stated are correct.

872 On page 100 of that report appears the title "General Electric Company, list of United States patents," and on page 101 appears the title "Applications for patents," and I have every reason to believe that the facts stated under the headings mentioned are correct.

At pages 110 and 111 are similar titles relating to Westinghouse Electric Manufacturing Company, and I believe the statements made under those headings are correct.

873 I will check the introductory statements at chapters 1 and 2 and the exhibits appearing in the said report to see

whether I agree with the statements made in the parts mentioned. The specific contracts referred to appear at pages 130 to 139, both inclusive, pp. 141, 150, 151, 197.

My recollection is that American Telephone and Tele-
876 graph Company has furnished to the General Electric a list of patents at the time of making the July 1, 1920, contract and has not furnished any since.

It is barely possible that we furnish General Electric Company with complete list of all our patents. I will check that up and if the list furnished was more extensive than the one in the Federal Trade Commission report I will furnish it.

Further Re-direct by Mr. Adcock.

877 I have only a general familiarity with the patents involved in the Kellogg Switchboard suits. Those patents are directed generally to straightforward trunking and No. 11 switchboard. I was generally familiar with the negotiations carried on with reference to the Kellogg patents. I know of no counter-offer that American Telephone and Telegraph Company made to the Kellogg Company. I do not recall what is claimed in the patents.

I understand straightforward trunking, in a general
879 way, to be the passing of a call over an interoffice trunk. I haven't any detailed knowledge, and is supposed to save time in completing a call. Our system of straightforward trunking is recognized as an important feature of the telephone system. It was first used by the Bell System many years ago,—I don't recall the exact time. I should say it was far back of 1921 or 1922. I haven't looked into the feature as to when the Kellogg Company claims its inventions were made with reference to straightforward trunking. Whatever the claim may be, however, as to that, my recollection is that we were able to show use of straightforward trunking long prior to that time. We have given most careful consideration to those patents, the very patents on which suit was brought, and have reached the conclusion that we did not infringe any

valid claims. If sounds as if you were trying to get some 880 information which might be used against us in the Kellogg suit, but their claims are quite positive and very broad and to the effect that our use of straightforward trunking infringes their patents, and that we deny.

With reference to the No. 11 switchboard, there are certain features of this that the Kellogg Company claim infringe their patents. There are several of those features, such as the flashing recall and automatic disconnect and probably three or four other features embodied in that switchboard which they claim are covered by their patents.

No. 11 is a manual switchboard. It is my recollection that that patent relates to non-interfering answering. All of these are important features of that switchboard. I don't know when they first commenced to use those features, but our use of them and the relations of the patents was carefully investigated before the suit was brought. We were convinced that we had a good defense to them.

971 GEORGE E. FOLK, resumed:

Re-direct Examination by Mr. Goldstein.

I have reviewed those portions of the Federal Trade Commission's report entitled, "Radio Industry," Defendants' Exhibit 191, to which my attention was called. I refer to pages 1 to 50, inclusive, which include the letter of submittal, and chapters 1 and 2, as well as the exhibits in the appendix referred to in said first fifty pages. While there are some inaccuracies, those portions of the report above referred to are remarkably accurate in their statements of fact. There are a few instances of slight inaccuracies to which I wish to call attention.

On pages 13, 26 and 49 are statements to the effect that "the DeForest Company maintains a personal non-transferable right to manufacture and sell under these patents." This might well give the impression that the rights retained related to all fields of use, while such is not the case. For

example, the DeForest Company retains no rights with respect to public service, wire or wireless telephony or telegraphy, and in certain instances reserves exclusive rights in a limited field.

On page 3 appears the statement that "the Radio Cor-
975 poration has entered into agreements with the various companies which own or control practically all patents covering radio devices considered of importance to the art." This statement I believe is too sweeping. The same is also true with reference to a similar statement at the top of page 39 of the report.

From a statement on page 27, it might be inferred that Dr. Langmuir was responsible for the development of the high vacuum tube, though reference is made there and in other places to the fact that his application for patent was in interference with a similar application of Arnold, owned by the Western Electric Company. Our contention was that Arnold was prior to Langmuir in the development of such improved vacuum tube, and this contention was upheld by a rather recent decision of the Supreme Court of the United States. On page 27 is the statement: "There are patents covering the character of filaments used in vacuum tubes. There are two types of filament now generally used, one known as Wehnelt type and the other tungsten. American Telephone and Telegraph Company uses the Wehnelt type, to which it owns the patents." While the Wehnelt type of filament is the one used in its amplifying circuits, both wire and wireless, American Telephone and Telegraph Company's use was not confined to that particular type of filament, since it used
976 then and now uses tungsten filament in its high power tubes, the uses of which are of importance.

On page 28 is a reference to the Armstrong patent relating to the feed-back circuit. The invention relating to the feed-back circuit for the generation of oscillations was then in controversy between the Armstrong application and a DeForest patent, the latter being controlled by this company. Since the report was written there has been considerable litigation

respecting this matter, the outcome of which was favorable to DeForest.

On page 38 occurs the statement, "The Western Electric Company is practically the only concern which has the right under the patent situation and is manufacturing and selling transmitting apparatus for commercial broadcasting purposes." And again, referring to American Telephone and Telegraph Company, the statement is made, "It secured the exclusive right to manufacture and sell broadcasting transmitting apparatus. * * *" This was the Commission's conclusion as to the scope of the licenses, which conclusion was not acquiesced in by the other parties to the cross license agreements. There was some doubt and difference of opinion between the various parties regarding this matter, and it was one of the things modified in the amended agreement of July 1, 1926, in which the several parties to the agree-977 ment were each given the right to manufacture and sell broadcasting transmitting apparatus.

On page 39, referring to the Radio Corporation of America, it is stated, "It also has acquired the patent rights by license agreements to the patents owned or controlled by * * * American Telephone and Telegraph Company * * *." Of course, this statement is too broad if taken literally, since American Telephone and Telegraph Company retained exclusive rights, even, in the fields, for example, of public service, wire and wireless telephony.

Defendants' Exhibit 191 for identification, subject to the foregoing statement, correctly states the facts therein recited, so far as I know.

Defendants' Exhibit 191, offered in evidence, to which plaintiff objected for irrelevancy, immateriality and incompetency.

Defendants' Exhibit 192, consisting of pages 2 to 59, both inclusive, bearing at the top of each even numbered page "Appendix to Appellant's Brief" and on page 59 bearing the legend "American Telephone and Telegraph Company Interprets 4½% Modification" and purporting to contain copies of various contracts between Southwestern Telegraph & Telephone Company, American Bell Telephone Company or

American Telephone and Telegraph Company and Southwestern Telephone & Telegraph Company and Resolution of Board of Directors Southwestern Telephone & Telegraph Company relating to such contract, and copies of various letters and memoranda relating to same, offered in evidence.

Plaintiff admitted the authenticity of the various papers referred to, but objects to them as being incompetent, irrelevant and immaterial.

70 GEORGE A. CAMPBELL, witness for defendants.

Direct Examination by Mr. Haight.

71 I reside at Montclair, New Jersey; I am telephone engineer for American Telephone and Telegraph Company and have been since 1897; I studied at Massachusetts Institute of Technology and at Goettingen, Germany, Vienna and Paris.

I first came into the Mechanical Department of American Telephone and Telegraph Company at Boston and was transferred with that when it was consolidated with the Engineering Department in Boston and came to New York when that department was moved there in 1907. About 1919 I went with the Development and Research Department of
72 American Telephone and Telegraph Company when it was organized.

In the Mechanical Department at Boston there were investigations of new and difficult problems, but I do not think it was then called research work. There was some similar work done by Western Electric in New York and Chicago which continued to about 1907, when we came to New York, and it was then the announced plan that all those various
73 research departments were to be consolidated, and so far as experimental work was concerned in the Laboratories at the Western Electric in New York, they were consolidated. The research activities remained with the Western Electric until the Bell Telephone Laboratories was formed January 1, 1925.

Prior to 1907 I worked upon experimental problems in connection with transmission; also mathematical problems and transmision on lines and transmission through electric circuits; I did some work prior to 1907 upon new equipment in the telephone field, such as repeating coils, induction coils, operators' sets, loading coils and a little telegraph work also; transmission over wires, and loading coils on cables, and capacity of cables, and cross talk on cables.'

I had something to do with changing the circuit for
74 the operators' sets in the switchboards.

After 1907 at New York I had practically no experimental work. For a little while there was one man kept on experimental work, but that did not last very long. Since then my work has been mathematical.

When I have spoken of experimental work, I meant laboratory work.

Ever since 1907, they have had people doing work in the field on telephone plant and in the central office investigating the behavior of the actual plant. All that might have to do with operation, but more particularly it had to do with the actual behavior of the plant, tests on the plant, tests which had some relation to the operating but were not operation in themselves. After 1907 the department that did that
75 work was the Engineering Department of the American Telephone and Telegraph Company.

The Western Electric at that time was doing some research and development and constantly doing more and more. The American Telephone and Telegraph Company has always done a great deal of forward-looking work. The research work done by Western Electric at that time related to telephone repeaters, loading, cable construction, switchboards and every phase of the plant was under forward-looking investigation. From 1907 to 1918 the Engineering Department, American Telephone and Telegraph Company, did work which would now be classified as research and studying
76 the needs of the business at that time, and when the needs were worked out, a good many of the problems were solved by means of inventions by the men in the Engineering

Department. Other problems were taken up with the Western Electric engineers and other assistance in experimental work was obtained.

The work of developing new apparatus or improving old apparatus during that period was done in the Western Electric Laboratories by its Engineering Department.

My present title is Research Engineer, in the Development & Research, American Telephone and Telegraph Company, and I have been such since that department was organized.

77 The Development & Research Department, American Telephone and Telegraph Company, has to do with the study of the conditions in the communication art, particularly problems that are presented by Bell Telephone System, to see how well those problems are met from a development point of view and what further developments are required.

I don't know of any problems of any magnitude other than those that are presented specifically by the Bell operating companies. I am not familiar with the work on problems that result in by products, but that department would have something to do with those where they relate to the telephone art.

Since the organization of Development and Research, American Telephone and Telegraph Company, my duties have been making mathematical investigations along lines requested by my colleagues and developing mathematical solutions along similar lines. Those problems have had a

78 little to do with the subject of radio, but not directly with television; none with talking pictures or aids to hearing.

Problems coming to Development & Research, American Telephone and Telegraph Company, resulted in new apparatus such as wave filters. I cannot think of anything more brand new, but I do know that engineers in Development & Research have applied for and been granted a great many patents on improvements to apparatus, for instance, in

79 the field of subscribers' equipment, central office equipment, machine switching, radio relating to interference prevention, and I understand that broadcasting systems

have been investigated, but I am not familiar with that subject, also television, but am not familiar with that. Mr. Parker, my associate's name, occurs to me in that connection, but I don't know how far he has gone into it.

There is a distinction between telephotography and television in that telephotography is reproducing a picture at a distance, while television is seeing the movement of a person or object at a dstance.

I understand my department has had to do with telephotography and secret telegraph systems during the war, but I don't know of any work on that since.

80 I understand my department has had to do with the development of apparatus for sending and receiving pictures by telegraphy. The service of the distribution of time by telephone is given so that I assume that the department of Development and Research has had something to do with it. My department also has to do with investigations of arrangements for secretly transmitting and receiving handwriting and pictures, which is a part of telephotography.

I assume that my department has had to do with the development of amplifiers and testing means for use in broadcasting systems, in connection with WEAF.

WEAF was the radio station which was owned and operated by American Telephone and Telegraph Company.

I don't know whether my department had anything to do with the development and application of loud speaking apparatus, public address systems, printing telegraphs. I
81 have always regarded it as primarily a Western Electric development.

Prior to the organization of Development & Research, American Telephone and Telegraph Company, the Engineering Department of American Telephone and Telegraph Company did the same kind of work. The Development & Research Department, American Telephone and Telegraph Company, kept posted on the development of the radio art. I do not know how much farther it went.

I have no knowledge as to whether any problems have come

to my department, the Department of Development & Research, American Telephone and Telegraph Company, from the Bell Telephone Laboratories.

82 Mr. Colpitts is in general charge of the Development & Research Department, American Telephone and Telegraph Company. Dr. Jewett, however, is the vice-president in charge of the department, Mr. Colpitts reporting to him.

I don't know what brought about the organization of the Department of Development & Research, American Telephone and Telegraph Company. So far as I know, there was not any great change in the character of the work of the Engineering Department of the American Telephone and Telegraph Company after the organization of Development & Research. The department, however, was divided, some of the men going into the Operation and Engineering Department and some into Development & Research. The line of demarcation between those two departments is that the

83 men who were more directly concerned with engineering work in the associated companies, went into the Operation & Engineering Department. Those who had more to do with the development of new apparatus, new circuits and new equipment and the more fundamental work connected therewith, went into Development & Research Department. Prior to the organization of Development & Research Department the Engineering Department did that work and did so as far back as I know anything about the company, and by that I refer to the Mechanical Department originally.

The Development & Research Department principally investigates requirements of the associated companies and formulates those requirements and follows the development work. My work is mathematical. Of the work connected

84 with the development of new apparatus I have only hearsay knowledge. My mathematical work at various times related to a number of circuits, subscribers' loops, central office circuits, toll lines, long distance lines and to radio. In radio I devised a selecting circuit, known as a wave filter, widely used in radio, and took out patents on that which went to American Telephone and Telegraph Company. I

took out patents also on antennae arrays now used in radio. I began work on antennae arrays during the war. That work continued for a couple of years during the war. Some of my patents issued in 1921 or 1922.

85 My work on filters employed in radio commenced probably in 1908 or 1909 and may have continued for five years. The filters may have been used in 1919 and 1920 and ever since, the Western Electric manufacturing them. It also manufactured loading coils which I had a part in designing in 1900 and later, being put in commercial use in 1901 or 1902.

Machine switching system embodied a great many inventions developed by my associates in Development & Research, American Telephone and Telegraph Company, or in the Engineering Departm[illegible] prior to that which was manufactured by Western Electric. I do not remember any more. Machine switching inventions were made as early as 1910. I don't know about later developments. I have not been familiar with that work since 1923. I am not at all familiar with patents taken out by Development & Research, American Telephone and Telegraph Company, since 1923. Roughly, there were 100 people in Development & Research Department when it was organized. There are about 500 now. I assume between that time and now it has been somewhat larger, probably 600. That is an outside figure.

87 Development & Research Department, American Telephone and Telegraph Company, passes on work to the Bell Telephone Laboratories, Inc. The Research Engineers Division of Department Development & Research does not pass work on to the Bell Laboratories.

88 In Development & Research, American Telephone and Telegraph Company, there are divisions of Apparatus Development, Plant Development, Interference Development and the general departments. Radio work comes under Transmission Development Division; television comes under apparatus development, but I have had no contact with it. I know of no work on any such things as movietones.

The divisions of apparatus development and transmission

development pass work on to the Laboratories, but I have nothing to do with that part of the work.

As to the distinction between the work done by the Bell Laboratories, Inc., and that done by Development & Research, American Telephone and Telegraph Company, I
89 know that the latter is in touch with the actual plant and operation of the Bell System and that they are also in touch with the laboratories and that they do not do the laboratory experimental work which is done by the Bell Laboratories. They do not compete in such work.

The Department of Development & Research, American Telephone and Telegraph Company, has worked on new types of cable from time to time. There has been cable development ever since I came with the company and the departments I have been with have always been connected with that work. I don't remember any inventions on that subject, as I do not see the list of inventions or applications that are made except very rarely. I know that there have been improvements, whether they have been inventions or not, in the matter of twist in cable, varying the twist so that the adjacent layers do not have the same twist, and varying the lay of different layers has been proposed and adopted.
90 I do not know whether the Department of Development & Research has had anything to do with the development of pulp insulated cable, but it has had to do with the development of carrier systems over a period of probably 15 years, to the present time; also with cable loading coils for 30 years, and with iron dust cores in loading coils, which work I associate with the Laboratories in my own mind. Development & Research Department, American Telephone and Telegraph Company, has certainly followed that development and I imagine they have contributed something but I cannot answer as of my own knowledge.

Development & Research Department had a great deal to do with the development of the hand set, which goes
91 back 25 years, and that work was finally embodied in commercial apparatus for general use roughly five years ago. My own contact with that work, however, stopped ten or more years ago.

A development of that kind is passed upon by Development & Research Department, American Telephone and Telegraph Company, before it is adopted as the standard in the Bell System.

I have heard of the difficulties which the hand set presented which seemed almost insuperable, but I never went into details and I have not had any connection with it myself since 1910 or 1915. I was in on conferences but made no studies of my own.

It is safe to say that department had something to do with new toll switchboards, but I don't know of my own knowledge.

92 Transmitters, receivers and induction coils have been the subject of study by the departments with which I have been connected ever since I came with the company. I know it has been going on. The same is true of manual central office equipment. When I first came with the company the common battery was being given its first tryout. That was one of the prominent subjects of conversation and has remained so ever since. I don't know the details of that work, nor the responsibility of Development & Research Department for any improvements.

Before 1907 development of machine switching was under way experimentally in the department. That experimental work of the department as a laboratory problem I suppose ceased when it came to New York but I know that the Development & Research Department has been in as a critic and initiator of the work since.

93 L. F. Morehouse is the head of the Division of Apparatus Development Division. F. L. Rhodes is the head of Plant Development Division. H. S. Warren is the head of Interference Development Division. O. B. Blackwell is head of Transmission Development Division, and H. S. Shepard is head of General Services of the Department. Mr. Carty at the time I was familiar with making of apparatus standard in the Department of Development & Research, finally passed upon the making of such equipment standard,

GEORGE A. CAMPBELL, recalled.

133 *Cross Examination by Mr. Blackman*

The Development & Research work of the American Telephone and Telegraph Company is highly specialized. The ultimate groups cover small fields out of the total. The total number of people of my unit including myself is five. I do not originate any investigation as to changes in apparatus or systems. My work consists of mathematical analyses and has for 20 years. The character of my work in the last 20 years has not changed except that it has become more specialized and more mathematical all the time. Usually
134 I have no contact with matters considered in the Development & Research Department and that has been true for 20 years. I was more familiar 10 or 15 years ago with the work that went on in the Engineering Department and Mechanical Department that preceded the Development & Research Department, because the departments were much smaller then. When I came into the Mechanical Department the men were all on one floor and just 30 or 40 men and we naturally used to see more of each other. There was then less specializing and no organization in the present sense. Soon after I came I began doing a large part of all the mathematical work.

Each organization now has its own mathematicians. They are not always classified as mathematicians but a great deal of mathematical work is done in the several divisions.

Special work is referred to me. Patents were issued 135 to me between 1903 and 1928. The more important inventions embodied in patents were made over ten years ago. In prior years, I had, in some cases, direct responsibility for meeting commercial problems and was more closely in contact with the work of others on such problems, and for that reason my patents were more numerous then.

About 22 years ago I was one of the persons delegated to look into the Fessenden Wireless System. An important

part of that system was the selective circuit which he was using for selecting the particular station which he wished to receive and differentiate it while excluding stations on nearby frequencies. That was an important part of the system. I decided from a mathematical standpoint that it
135 could not accomplish all he claimed for it. That being a very important part of the whole wireless project, I continued the investigation for a considerable period of time, which investigation eventuated in the invention of the electric wave filter which led to a patent issued to me. The Professor Fessenden referred to was claiming then that radio would entirely supercede wire transmission in telephony.

Redirect Examination by Mr. Haight

It has not done so.

The Department of Development & Research has an organization chart which shows the grouping of the men and that is the easiest source of information to determine that the work is highly specialized, but that is not the only source. I have contact with a considerable number of men and know personally the fields in which they are working and my mathematical work takes me to each of the divisions of the department to a limited extent and in all of those divisions there are mathematical problems arising.

137 In that way I have to do with each of those divisions.

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336 JOHN EDWARD OTTERSON, for defendants.

Direct Examination by Mr. Haight.

Reside New Haven, Conn.; am president of E. R. P. I.; have been for about four years; Mr. Bloom was the first president for about a year when it was organized in January, 1927. At the same time he was president of Western Electric. I was E. R. P. I.'s general manager before I became president. I was general commercial manager of Western

Electric for about 3 years. I was in the selling depart-
337 ment and had a number of different titles during the
3 years I was with the Western Electric Company.

Prior to coming with Western Electric I was president of Winchester Repeating Arms Company for about 9 years and was president of it about 5 years. Before that I was an officer of the United States Navy which takes me back to my training at Annapolis.

I was familiar with the organization of E. R. P. I. Its assets came from Western Electric, the latter company
338 taking all the stock of E. R. P. I. Western Electric owns all its stock now.

The business of E. R. P. I. is the exploitation of that portion of Western Electric's business that lies outside of the telephone field, that is, outside of the business done with the associated companies, the Graybar Company, Northern Electric Company and International Standard Electric Company.

E. R. P. I. does not itself manufacture anything, its activities being confined to selling and licensing. It sells apparatus for the recording and reproduction of sound, commonly known as talking picture recording apparatus, talking picture reproducing apparatus; also sells talking picture
339 testing apparatus; it sells also reproducing apparatus not in synchronization with pictures, so called non syn-
340 chronous reproducing apparatus. It sells hearing aids, sells submarine cable terminal apparatus, public address systems, measuring instruments in connection with acoustic testing and acoustic measuring instruments. It has to do with phonograph recording apparatus in the sound recording.

E. R. P. I. licenses others to make electric phonographs for theatres. We use the term non-synchronous reproducing equipment to designate what is equivalent to a large electric phonograph that we use in the theatres. It has to do also with electrical reproducing equipment for broadcasting
341 stations; with amplifiers for submarine cables, which

would come under the classification of terminal apparatus for submarine cables; testing apparatus for submarine cable also comes in the classification of terminal apparatus for such cable.

We have done practically nothing with picture transmission apparatus although we have the right to deal in it.

Contract between Western Electric and E. R. P. I. of December 30, 1926, identified as Defendant's Deposition Exhibit I, which was offered in evidence, and to which plaintiff objected on ground of irrelevancy and immateriality.

We lease phonograph recording apparatus to our licensees. Respecting talking motion picture equipment of the various kinds, we lease the recording equipment and the testing equipment to our licensees and the reproducing apparatus we lease to exhibitors who are not our licensees except as their leasing of equipment conveys license to them. Public address apparatus for theatres is leased. The electric phonograph for theatres called non synchronous reproducing equipment, is leased to theatres. In some instances we may have sold these. The general practice is to lease them.

We lease also electrical phonographs for broadcasting stations; also amplifiers for submarine telegraph cables which is classified with terminal apparatus for submarine cables. Those are leased to the cable companies. We also lease testing apparatus for submarine cables.

Picture transmission apparatus we have not done any business on that, but we have certain rights with respect to that.

Hearing aids are sold. We grant licenses on sound recording both in the phonograph and the talking picture fields. We license submarine cable manufacturers in connection with the manufacture of submarine telegraph and telephone cables. We have sold them some manufacturing equipment in connection with those licenses, but that was not a regular branch of our business; that was merely in the initial stages to get them started as licensees.

With respect to phonograph recording apparatus, we have

leases with two phonograph companies and those leases are approximately in the same form for the two companies, the Victor Phonograph Company and Columbia Phonograph
345 Company, and then we have their affiliates, the Grama phone Company, generally called H. M. V., His Master's Voice, in England, and the Columbia Graphaphone Company, which is the English affiliate of the Columbia Phonograph Company in this country. Those companies are authorized to operate in other countries throughout the world. These two companies cover substantially the whole phonograph industry. There are smaller companies, but we do not license them. We lease to those companies the apparatus with which the recording is done, that is, with which the master record is made. The record is made on wax and the manufacturing process of transferring it from the wax to the commercial record which is sold, is not our apparatus. We are only concerned with the master record.

The foreign companies mentioned are granted licenses
346 directly by us. The territorial extent of those licenses granted to the English Company or Companies is the world, outside of the United States and Canada, and I think, in one instance, the Far East. The American Companies are licensed for the territory in which they operate and the English Companies in the territory in which they operate. The Canadian business is handled by us through an arrangement with the Northern Electric Company, the latter being our associate in Canada, but we have to share royalties with them in connection with those phonograph records as relate to Canada.

347 E. R. P. I. has about twenty foreign subsidiaries. They do not grant licenses as the licenses are granted by the parent company. The foreign subsidiaries that administer those licenses supervise the operation under them and render the technical service called for in connection with them.

They sell or lease or distribute apparatus in the foreign
348 countries in the same manner that their parent company does in this country.

The rights granted relate only to the making of the master records.

With respect to talking motion picture equipment the licensees for recording and testing and reproducing apparatus generally are the same. Generally speaking, those who are licensed to do recording use testing apparatus. These licensees are principally motion picture companies or producers such as Paramount Publix Company, Metro Goldwyn Mayer, Warner Bros., Fox Film Company, Metropolitan
Sound Studios, Universal Pictures Corporation, Audio
349 Cinema, Harold Lloyd, United Artists, Balsey & Phillips.

There is one company that is licensed to do recording that is not in the picture field, that is the Sound Studios; they do recording for broadcasting purposes.

The portion of the motion picture field covered by these licensees in this country is about 90 per cent. (This question was answered over Mr. Thompson's objection on the ground of immateriality.) There is generally a standard
form of contract with the licensees. I can produce one
350 of those standard forms but I haven't it here.

We lease apparatus which records the sound in the
351 motion picture business. Reproducing apparatus in con-
nection with talking motion picture equipment which I stated was leased to exhibitors, is leased for the most part to owners of theatres. That apparatus reproduces the sound in connection with talking pictures. There is service called
for by the leases, the leases running for ten years, serv-
352 ice running for the period of the lease, the service being
generally periodic inspection and testing and overhauling of the equipment, which is performed by engineers employed by us under the so called service department. There is no service of that character performed by Bell Telephone Laboratories or by Western Electric or by any other entity.

Public address apparatus is leased to theatres and they are permanent installations. Generally they are leased with the talking picture apparatus and fall under the same service agreement.

Talking motion picture equipment is practically all sold on

time. In the case of the recording apparatus, the time 353 varies; sometimes cash, sometimes over a period of three years. Payments on reproducing apparatus extend over three years, generally. There are a few cash contracts. The service maintenance continues for the life of the lease. This equipment is bought from Western Electric. Approximately, our selling price is twice what we pay Western Electric. (This question was answered over Mr. Thompson's objection on the ground that it was far afield.) When the payments are over a period of three years, the amount is slightly 354 higher, enough to cover the financial carrying charges of the deferred payment and the credit risk. In the first three years the payments called for in the leasing contract cover both payments on account of the apparatus and payments on account of the service; and after the three year period the payments are only on account of service, and the payments on account of service continue during the balance of the seven years. These payments represent the cost with a profit.

Where recording apparatus is leased to licensees, the 355 arrangement is not quite the same, as we lease the apparatus to the licensees and then we maintain an engineering staff in the vicinity of the studios in which the apparatus is used for the inspection and overhauling of that apparatus and to give technical assistance to the producers as called for in our agreement; and that technical service is partly paid for under the agreement and partly borne by us as a charge against the royalties that we receive.

Contracts relating to recording apparatus require payments sometimes in cash and sometimes running over the period of three years. In some instances we have to extend the time where the companies are in financial difficulties. Originally the terms of the leases were seventeen years.

The same thing is true approximately in regard to costs as obtains in regard to reproducing apparatus. Public address apparatus for theatres and reproducing apparatus are furnished at the same time and are embodied in the same

contract. Sometimes they are furnished, however, at dif-
356 ferent times, and then supplementary contracts are made.

Substantially the same arrangements for payments and service arrangements are made, except that where the public address equipment is furnished separately and subsequently, it is more likely to be paid for in cash as it is a relatively small item.

Electric phonographs are leased also and fall generally under the same contracts as the talking picture apparatus and the same general facts obtain.

Electric phonographs for broadcast stations are leased on the basis of a certain fixed sum a month, varying on the degree of use and for what, the lease being generally ten years. The idea was a flat payment as a continuing rental for the period of the lease, the rental including the use of the
357 material and service. Payments are distributed over the entire term of the lease. I cannot say just how soon we get our investment out of the actual apparatus, but I should say during the first half of the lease. (This was over Mr. Thompson's objection on the ground of irrelevancy.)

I think amplifiers for submarine telegraph cables is at the rate of a fixed sum per terminal per year. The lease runs for the period the apparatus is actually used. The same is true for terminal apparatus for press telegraphy on submarine cables. There is really no distinction in the apparatus and for testing apparatus on submarine cables.

The right to exploit picture transmission apparatus is contained in the contract, Exhibit 4.

358 We sell hearing aids only in a limited field as the general sale is carried on by Graybar which has an arrangement with Western Electric. My recollection is that our sales are confined to theatres or places of public entertainment where we have our other equipment installed. We buy substantially all of our articles from Western Electric, including those sold and those leased.

When the company was organized, personnel was re-
359 cruited generally from the Bell System, mostly from the

Western Electric, some from the Laboratories and subsequently from the associated operating companies when we were establishing our field service organization.

Western Electric does not do any work for our company outside of that of buying or making things. It keeps the records that a parent company would keep of its subsidiary but none of the operating records of the company. We have an organization of something around 2,000. We have a treasurer with his department, an auditing department, engineering, installation and maintenance, comptroller departments, and educational talking picture department, including legal and patent department and secretarial department.

360 Western Electric does no accounting, treasury, secretary or publicity work for us. However, the secretary and the head of the publicity department are the same for E. R. P. I. and Western Electric, but we maintain a separate department and pay for our own services.

Western Electric has nothing to do with employees' benefit fund except that we run it in the same manner. We have employees that work for both companies in the legal, secretarial and publicity departments, the charges and expenses of them being divided according to the costs of the service. Records are kept of the time men are employed in the work of the two companies and divided in that manner. Western Electric does the paying and bills us.

361 E. R. P. I. has offices uptown in the Fisk building on 57th street and the term "Broadway Service" refers to the services we get down town, such as legal, secretary and publicity.

None of our departments are under the supervision of Western Electric. However, two departments are located at 195 Broadway down town. One has to do with submarine cable work and the other has to do with shop processes.

Our company gets a royalty under patent license contracts as we license manufacturers to make use of manufacturing apparatus, machines or processes developed in the factories of Western Electric. No extra payments are made by us to

Western Electric as it is included in the other payments that we make. I think there is no contract with American Telephone and Telegraph Company itself.

363 The twenty subsidiaries of E. R. P. I. mentioned have no rights directly from Western Electric. They get their rights from Electric Research. We do not enter into formal contracts with them. We supervise their operations and direct their operations, in an executive sense and they engage in such activities as the parent company direct them to carry on from time to time, their activities being the same.

E. R. P. I. has to some extent taken out patents on inventions developed by it but not in all instances. The patent departments of the Laboratories and of Western Electric also handle our patent matters. We have all to do, however, with the taking out of foreign patents on the inventions developed by the Laboratories or in the System, that being handled through either the Western Electric Patent Department, that part which is assigned to our business, or through our

364 Patent Department which we maintain in London. The rights under foreign patents in our field covering foreign countries are handled by our company through these various subsidiaries.

717 JOHN EDWARD OTTERSON, for defendants:

Cross-Examination by Mr. Thompson.

In my direct examination I stated that the sales price of the products of E. R. P. I. is about double the price which it pays to the Western Electric for goods purchased from that company. The difference constitutes a profit plus the expenses of doing business.

In addition to selling, E. R. P. I. has many other activities; for instance, in connection with the purchase and sale of equipment, apparatus, etc., it buys the equipment from Western Electric and others and assembles and installs it in places to which it is sold. It purchases about 10 per cent of its total sales from other suppliers than Western, carries

on in Bell Laboratory development research in connection with its fields of activity and makes payment to Bell Laboratory on account of those services, and during the years 1927 to 1931, both inclusive, it paid to Bell Laboratory for

718 such services about 41 million dollars.

E. R. P. I. maintains also business organizations of its own, including executive, administrative and financial, sales, engineering and accounting, and an organization for the servicing of the installations which it makes in theatres and other places after the installations are made. This is an inspection and maintenance service. It carries on promotion activities in other fields which it is endeavoring to exploit, such as industrial, educational and religious. It does legal and patent work, maintains warehouses, carrying merchandise therein. It exercises supervision over export business in foreign countries in connection with all of which it has expenses.

719 It offers a financial service to purchasers of its equipment who buy this equipment on a time payment basis; maintains an organization in connection with music rights, obtaining music rights from publishers and extends them under license arrangements to licensees of E. R. P. I. It maintains an organization for soliciting licensees and for negotiating with them.

In connection with these activities, E. R. P. I. pays directly all the expenses except in connection with the legal patent services, secretarial department, publicity department, and the research work done by Bell Laboratory. In the case of legal, secretarial and publicity work, the expenses are paid by Western Electric and billed to E. R. P. I on a time basis and E. R. P. I. reimburses Western on account of such expenses.

720 In the case of laboratory expenses, the Bell Laboratory bills E. R. P. I. and is reimbursed by it. The bills, however, actually go to the Western and then are rebilled to E. R. P. I., but the arrangement in connection with those bills is made directly between the laboratories and E. R. P. I. All

these expenses enter into and are part of the cost of the business of E. R. P. I., and are taken into account in connection with such business.

Referring particularly to motion picture recording and reproducing apparatus sold on a time payment basis, the entire sales price of the apparatus is taken up on the books at the time of sale and distribution and the deferred payments are carried on the books as receivables. The amount of
721 payments that is deferred is that related to service charges which are rendered later, which services are to be performed by E. R. P. I. later in servicing the apparatus. The non-synchronous broadcasting equipment sold up to date has been about one-half of 1 per cent of the business done by E. R. P. I.

Referring to my statement in direct examination to the effect that after half of the payments of this broadcasting apparatus had been made and E. R. P. I. had recouped its investment, the remaining payments do not constitute profit but they are payments on account of the financial expenses and services that E. R. P. I. has in connection with the apparatus.

722 *Re-direct Examination by Mr. Goldstein.*

I think I stated at the former hearing that there were four classes of transactions—namely: (1) Outright sale of equipment; (2) Sales of equipment on the installment plan; (3) Licensing or renting of equipment where title to the equipment is retained by E. R. P. I.; (4) Royalties for use of processes. That covers it in a general way, but is not a complete statement.

723 With reference to sales of equipment on the installment plan, the purchase price of the equipment is entered on the books as in the year in which the sale is made; that is, the entire sale price of the equipment on the installment plan is considered as income in the year in which it is sold, and the entire expense, including the cost of equipment, is deducted in the first year against that income.

Concerning equipment, where the title is retained by E. R. P. I. and a license given for the use of the equipment over a period of years, the entire amount of license payments called for by the contractor is entered as income in the first year except where the payments relate to service and not to apparatus—where the services are to be performed later.

724 If we sold equipment to a theatre generally on a 10-year lease, the payments on account of the apparatus itself would be spread over a three-year period. The service payments run over the 10-year period. The entire payments which are due over the three-year period on account of the apparatus are shown upon the books as income in the year of sale and the expenses in connection with the cost of that apparatus are shown also on the books at the same time. The profit will be indicated during that year as the difference between those two. The amount of payment which has not been made at that time is carried as receivables. The service charges are taken up as they are received during the year in which the service is rendered.

The title to the equipment remains with E. R. P. I. during the entire period of the lease, 10 years.

725 The amounts called rental are distributed for the first three years to include the service charge plus what is considered to be the selling price of the equipment. The selling price is the regular price plus such additional charge as may be necessary to cover expenses with respect to these additional payments—a financial charge.

The difference between the second and the third class is, the second class was a sale on the installment plan, the third class, the lease or rental of equipment with deferred payments. In the case of sale. The rental for the three years covers the total amount which is considered as the selling price of the equipment in the case of a sale.

726 In the third class, the entire cost of the equipment, together with all expenses of installation and all expenses of the transaction, together with service charges, are all taken in the first year.

Royalties are determined currently by the volume of business which the licensee does in some form, with minimum guarantees. The guarantee is during the life of the contract. The income from the royalties is entered on a cash basis as received and the costs are entered as incurred. There is no income in connection with any of these transactions which is received in any year against which expenses are to be incurred in any future years for which there is to be no further compensation.

727 There have been many cases where contracts have been canceled or where we have had to take back equipment. The equipment is taken back under such circumstances into our inventory at a depreciated value, taking account of wear and tear and of cost of reconditioning it and of the lower price at which it would have to be resold because of its being used equipment and the receivables which are at that time on the books as unpaid in connection with the original transaction are then taken off the books and the revaluation of this equipment is credited against this deduction from receivables.

728 The federal income tax is computed on the basis of the accounting system which I have described.

I stated that 4½ million dollars was paid by E. R. P. I. to the Bell Telephone Laboratories covering the years 1927 to 1931, both inclusive.

As to whether any part of those payments covers services for which E. R. P. I. bills its customers, in a very minor degree that might be true. For example, if one of our licensees wanted the services of a special engineer out in Hollywood then we would bill the licensee for the services of that engineer and his expenses in going there.

Generally speaking, the expenses that we incur in the Bell Laboratories are deducted from the income that we receive without special billing. In the case of special representatives coming from the laboratories, the instructions to the laboratories are given by E. R. P. I.

729 I think the billing for that sort of service is to the Western Electric by E. R. P. I. The provisions of our

agreement permit us to add 25 per cent to the direct expenses of such representatives.

When we sell on the deferred payment basis or on an installment basis, we carry the investment until such time as the payment is actually made and we make a financial charge for the interest and credit risk during that period. We follow the practice of credit companies and industrial companies generally in that line, having made a study of the General Motors plan at the time we installed our own, and we are governed somewhat by its practice.

730 There is a contract between E. R. P. I. and the Western Electric but how specifically the basis on which Western Electric bills E. R. P. I. for legal, patent, secretarial and research work services is set forth, I don't know. But it is a definitely established arrangement and practice between the two companies.

The contract I produced on my direct testimony is the only one I know about. The basis of the billing by Western Electric is on a time basis. However, patent services are on a case basis for each piece of work. Secretarial service is on a time basis; research on a case basis; services are

731 done by Western Electric on a cost basis, there being no profit added.

Where E. R. P. I. requires the laboratories to furnish special engineers and the billing is done by the Bell Laboratories to the Western and re-billed by the Western Electric to E. R. P. I., Western does not add any profit to the charge made by the laboratories. The laboratories charges the Western Electric for the services of an engineer on the same basis as it makes all other charges, that is without any profit to the laboratories. E. R. P. I.'s books have been audited by Arthur Young & Company and E. R. P. I. has copies of the audit, the audits having been made for each of the years 1927 to 1931, inclusive. Arthur Young & Company's auditors are currently and constantly in touch with our accounting department.

Mr. Goldstein: Mr. Otterson, to avoid asking you to produce detailed statements covering those various transactions

both as to income and expenses we would like to have you produce the audits of Arthur Young & Company covering the years 1927 to 1930 inclusive.

Defendants' request that plaintiff produce copies of the audits of Arthur Young & Company of E. R. P. I. covering years 1927 to 1930, both inclusive, taken under advisement by plaintiff.

732 Mr. Thompson: I have here certain contracts and assignments which we have been requested to produce;

First, an assignment dated October 13, 1927, from International Telephone Sales and Engineering Corporation to Automatic Electric Company.

Second, an assignment dated September 30, 1925, from International Western Electric Company, Inc., to Western Electric Company, and a consent by Western Electric Company dated September 30, 1925, to this assignment.

733 Third, a consent by Northern Electric Company, Ltd., dated October 8, 1925, to the assignment last mentioned.

These assignments show on their face what contracts they relate to.

Also the following contracts between Western Electric Company and Victor Talking Machine Company:

An agreement dated June 26, 1925, assigned to E. R. P. I. by Western Electric on January 3, 1927.

Second, an agreement between Western and Victor Talking Machine Co. dated March 18, 1925, and assigned by Western to E. R. P. I. on January 3, 1927.

Third, an agreement between International Western Electric Co., Inc., and Victor Talking Machine Co., dated May 1, 1925, and assigned to E. R. P. I. by Western Electric Co. on January 3, 1927.

Fourth, a modification of agreements of March 18, 1925, and May 1, 1925, dated July 19, 1926, between Western Electric and Victor Talking Machine Co. and assigned by Western Electric to E. R. P. I. on January 3, 1927.

734 Five, memorandum of agreement between Victor Phonograph Co. and E. R. P. I. dated January 11, 1928.

The following agreements between Western Electric and Columbia Phonograph Company:

1. One dated February 26, 1925, agreement between Western Electric Company, Inc., and Columbia Phonograph Company, Inc., assigned by the Western Electric Company to E. R. P. I. on January 3, 1927. Agreement dated April 22, 1925, between International Western Electric Co., Inc., and Columbia Graphophone Company, Ltd., assigned by Western Electric Company to E. R. P. I. on January 3, 1927.

Agreement dated January 19, 1926, between Western Electric and the Gramophone Company, Ltd., assigned to E. R. P. I. January 3, 1927.

Agreement between International Western Electric and Gramophone Co., Ltd., dated May 1, 1925, assigned by Western Electric to E. R. P. I. on January 3, 1927.

Agreement between E. R. P. I. and the Gramophone Company, Ltd., dated August 10, 1927.

I also produce an assignment by Western Electric to E. R. P. I. of one of the agreements with the Victor Talking
735 Machine Company. I am informed that the assignments to which I have referred with respect to the other contracts are substantially in the same form. It is my further understanding that the contracts which have just been produced in which Victor Talking Machine Company and Columbia Phonograph Company are parties are the main contracts now in existence. I am unable to state that they include all minor modifications or changes.

In response to requests 9 and 11, made during the progress of this hearing, I now produce two folders which contain certain correspondence, memoranda and contracts between Kellogg Switchboard & Supply Company and Western Electric and between Western Electric and Stromberg Carlson Telephone Manufacturing Company. I want to identify these various papers for the record.

The Kellogg file consists of a letter dated September 18, 1922.

Another dated November 11, 1922.

Another dated November 15, 1922.

Another dated December 4, 1922.

A memorandum from Western Electric files dated April 14, 1923, and letters dated May 8 and 16, 1923.

The Stromberg Carlson file includes the following:

736 An agreement between Western Electric and Stromberg Carlson Telephone Mfg. Co. dated February 16, 1922.

Letters dated as follows: January 4, 1923; December 21, 1923; March 20, 1928.

Minutes of a conference dated April 3, 1928.

Letter dated April 10, 1928, with certain price lists attached and a letter dated October 20, 1928; another November 5, 1928; December 6, 1928; February 20, 1929.

Also an agreement between Stromberg Carlson Telephone Mfg. Co. and Western Electric dated June 1, 1920.

I understand that the requests made were with respect to the basis of prices and that no request has been made that we produce all of the bills or other information which do not relate to the price bases.

Mr. Goldstein: Except, Mr. Thompson, that that request is in and Mr. Wray has that up with Mr. Cox.

Mr. Thompson: I understand, but the request made orally here was of the character indicated.

Mr. Goldstein: That is right.

846 JOHN E. OTTERSON, recalled:

Further Direct Examination by Mr. Goldstein.

As to the audit which I spoke of as having been made by Arthur Young & Company each year, I now find out that Arthur Young & Company makes no comprehensive report. It is merely a certificate to the effect that they found the accounts correct, confirming the balance sheet, statement of
847 assets and liabilities as it appears on the company's books. That certificate is in the possession of E. R. P. I. and I will produce a form of that certificate.

Referring to monthly report No. 1 entitled "Condensed Summary of Results for Years 1927 to 1930, inclusive, of ERPI," I am generally familiar with the figures contained on that statement, but I have no way of identifying it. I
848 think it is a statement prepared in our office and is a statement of our accounts. Said statement was offered and received in evidence as Defendants' Exhibit 187, subject to plaintiff's objection as to irrelevancy and immateriality, but no other objection subject to check.

Referring to Defendants' Exhibit 187, line 2, "Investments, December 31, 1930, $10,170,000; December 31, 1929, $19,675,000; December 31, 1928, $10,597,000; December 31, 1927, $12,761,000," we have in the records of E. R. P. I. statements, or data, showing the detail of those investments, that is, which of the portions making up this total represent investments of subsidiary companies and what represents investments outside of subsidiary companies. (The witness was requested to furnish a statement showing the breakdown of the item on line 2, showing the cases of investment contained in each of those totals, and he stated that he did furnish that.) I do not think that I can state offhand what the term "Deferred receivables" found in the column "December 31, 1929," is supposed to include. I would have to check that up. I will do so. We have a comptroller in E. R. P. I.

3532 W. K. KRUSE, a witness on behalf of the plaintiff, having been previously duly sworn, resumed the stand and testified further as follows:

Cross-Examination by Mr. Goldstein.

May 31, 1932.

The American Telephone and Telegraph Company has not paid the Illinois Bell for any of its advertising appearing in the Bell Telephone News. However, they have furnished the plates from which the ads were printed.

3533 (The back cover sheet of the Bell Telephone News of June, 1930, with the heading, "It Keeps Faith with your Needs", an advertisement of the American Telephone and Telegraph Company, was identified as Defendants' Exhibit D-124. The back cover page of the Bell Telephone News for February, 1931, entitled, "What is the A. T. & T.?" was identified as Defendants' Exhibit D-125.)

As to all other advertisements of the American Telephone and Telegraph Company appearing in the Bell Telephone News, the same thing is true as is true with respect to these two; that is, nothing was paid by the American Telephone and Telegraph Company, but the American Telephone and Telegraph Company supplied the plates.

The Illinois Bell has a transfer agent at the present time. It has a registrar at the present time. I do not know the basis upon which the fee for the transfer agent and registrar was established.

3534 Defendants' Exhibit D-126, "Estimated Costs in connection with subscriptions for A. T. & T. Stock, under the Employees' Stock Plan, Chicago, Exchange" was prepared under my supervision. No portion of the cost which

I estimate as shown in the last column was paid by the American Telephone and Telegraph Company. I esti-
3535 mate the costs for the year 1923 at $29,701; 1924, $32,800; 1925, $32,900; $33,000 in 1926; $34,000 in 1927; $35,000 in 1928; $39,000 in 1929; $44,000 in 1930 and $45,000 in 1931. Those are the costs which I estimate are allocable to the carrying out by the Illinois Bell of its functions in connection with the subscriptions by the employees of the Illinois Bell, Chicago Exchange, to the stock of the American Telephone and Telegraph Company. In my estimates, I took into account items of cost to compensate the Illinois Bell for the use of its facilities. It is included in the costs shown for each of the departments. I took into account the portion of the rents. I computed the return on investment at the
3536 basis of 8 per cent on book costs. I charged against this service 8 per cent on book cost of the plant. I did not take into account going value nor reproduction cost of the plant.

The expense in the first column, "Special Stock
3537 Group", represents the cost incurred in the Accounting Department in connection with a special group of employees who work solely on the Employees' Stock Plan. It includes the salaries and expenses of that particular group; it also includes the rent and the house service for the space occupied by that force, as well as the annual charges on the equipment which we have allocated. At the present time that force is located on the 16th floor of the Bell Building, but its location has varied from time to time. I have taken space for this group on the basis of 75 square feet per employee.

The next column represents the expense incurred in
3538 the Disbursements Division of the Accounting Department in handling the subscriptions received from the employees, and making the deductions on the payrolls periodically, and handling any cancellations, or special treatment forms, and it also includes allowance for rent, use of space and the furniture and equipment used by such employees.

The column "Revenue" is similar costs, which are incurred in the Revenue Division of the Accounting Department. The "Treasurer's Office" is intended to represent the same sort of items.

The figure representing a portion of salary to these employees was determined by consulting the particular employees, or the supervisors who were in charge of the work during the nine years. We had a very good record of the employees who were payroll clerks, and who handled this particular work during that nine-year period. They
3539 handled other work. I determined the percentage of time by consulting the individual employees who were engaged in the work, and obtained their judgment as to the amount of time they spent on Employees' Stock Plan Work. This study was made just recently, in 1932. I consulted the immediate supervisor, who in turn consulted his employees as to what their judgment was, all the way back to 1923. We keep no records of the exact time. The only record of exact expense is that which is recorded in the first column, marked "Special Stock Group".

The "Traffic Department" is the same thing. The employees in that department that I cover are the payroll
3540 clerks who receive the subscription cards, make the deductions on the payrolls, and make necessary entries on the employees' service record, and other work that is similar to that, which I described under the disbursements. They are regular telephone employees who use part of their time for this purpose.

The "field" is under the heading of Plant Department. Those are the costs incurred by the employees in the various divisions of the Plant Department. We had a Maintenance Department at that time, and the Construction and Engineering Department, and I have shown that separately from that designated as Accounting. We had in the Plant Department, up to the early part of 1930, a section which handled the accounting work, and it was merely with the idea of separating the Plant Department costs between the two sections.

Defendants' Exhibit D-127, entitled, "Estimated Costs in Connection with Subscriptions for A. T. & T. Stock Under Bell Telephone Securities Plan" was prepared under
3541 my direction. That represents the costs which I estimate were incurred by the Illinois Bell in connection with its employees selling to the public in this area stock of the American Telephone and Telegraph Company under the Bell Securities Plan.

The last column shows that the estimated costs ranged from a low of $15,000 in 1923, to a high of $29,400 in 1926; that is the total costs for those particular years.

3542 The amount of billing to the Bell Securities Company, shown in the next to the last column of Exhibit D-127, was established by the President, Mr. W. R. Abbott, as the result of a conference and discussion he had with the Vice President of the Bell Securities Company. In 1924, it was determined as a result of that conference, and was agreed to by both the Bell Securities Company and the Illinois Bell, to bill $9,000 a year, or $750 a month. In addition to that particular billing, we also billed amounts for incidental or miscellaneous expenses which we incurred in connection with the handling of this Bell Securities Company, for example, mailing annual American Telephone and Telegraph Company reports to the purchasers, and some printing costs.

The employees and the allocations which I took into account in D-127 were similar to the methods used in connection with my estimate of costs in D-126. They are prepared under the same general basis.

In connection with Exhibits A-49 and A-53, I did not include as part of the operating income any interest on loans which the Illinois Bell made to the American Telephone and Telegraph Company. I did include as an operating
3543 expense the entire license contract payment to the American Telephone and Telegraph Company. We have not had any discount on stock that I know of, it always sold at par or over par. In connection with the fifty million dollar

bond issued in 1923, there was some discount incurred and none of that was included in the expenses shown on my Exhibits A-49 or A-53.

We put in the capital account our investment in tele-
3544 typewriters. We put into the capital account our purchases of dial apparatus. It all goes into the capital account.

Where we purchase appliances from the Western Electric, we charge the entire purchase price to capital account without taking into account whether the Western Electric paid the American Telephone and Telegraph Company for any portion of the patent expense or things of that sort. That does not enter into our consideration, as to whether or not we put the item in the plant account, provided it is used for construction purposes.

3545 Defendants' Exhibit D-128 (an advertisement entitled, "Our Slogan"), is the one item that appeared in the Official Directory. It appeared in the April, 1924 issue. The American Telephone and Telegraph Company did not pay for that advertisement. In January, 1925, a display was shown in the window at the corner of Washington and Franklin Streets, consisting of canceled stock certificates furnished by the American Company, and also appropriate signs and decorations, and this display was later shown throughout the state, in eight other towns. There was no charge made to the American Telephone and Telegraph Company for that; they
3546 furnished all of the material and we furnished the window space.

We also furnished a number of cardboard signs printed at one time or other that were placed in the commercial offices, which invited the public to inquire regarding the placing of their money in a safe investment wth reference to the American Telephone and Telegraph Company's stock. No part of the small costs, amounting to approximately $5, was ever billed to the American Company.

3548 Defendants' Exhibit D-129 covers an additional plan whereby, when the American Telephone and Telegraph

Company issues rights in connection with new stock issues or bond issues, we assist the public in either purchasing additional rights or disposing of some of their rights, and in this case we billed the Bell Securities Company the full costs incurred by the company. It is outside of what we call the Bell Securities Stock Plan. By "full costs", I mean that we include in the costs billed the Bell Securities Company all of the salaries and expenses incurred by the employees engaged on that particular work. I don't think there have been any costs included for floor space in connection with those particular transactions, nor any overheads, supervisory overheads, or anything of that sort except the supervisors in charge of the immediate employees handling that work.

I prepared Defendants' Exhibit D-131, amount of collections and amount of remittances made to American Telephone and Telegraph Company in connection with the Em-
3549 ployees' Stock Plan, 1923 to 1931, and Exhibit D-132, the collections and amount of remittances made to Bell Telephone Securities Company in connection with the sale of the American Telephone and Telegraph Company stock under the Bell Telephone Securities Company plans for the years 1923 to 1931, and Exhibit D-133, the amount of collections and amount of remittances to American Telephone and Telegraph Company and Bell Telephone Securities Company in connection with the rights, transactions and related stock and bond subscriptions.

I haven't here any record of the amount of stock sold each year, although I believe Mr. Cleveland testified that under the employees' stock plan there was 120,000 shares issued to employees during this period.

3550 We have, at various times, taken money for surplus and put it in the Pension Fund. I don't recall the specific dates right now. I think that has been done during this period of 1923 to 1931.

"Q. Mr. Kruse, you were asked to furnish us a statement showing the kind of service that was taken over by the Illinois

Bell in 1926, which prior thereto was conducted by the
3551 American Telephone and Telegraph Company, intrastate, and you furnished us a document which we will identify as D-134, but which contains no explanation. Will you explain what that document is intended to show?"

Prior to October, 1925, the American Company handled all of the business between certain points which the Illinois Bell at that time had no facilities to take care of, and this list shows the various points between which the American Telephone and Telegraph Company handled the intrastate traffic, prior to October, 1925. At that particular date such business was taken over and handled by the Illinois Bell.

"Q. Prior to 1926, was there a contract with the American Telephone and Telegraph Company or with anybody else that prevented the Illinois Bell from dealing direct with the telephone properties in those cities? Could the Illinois Bell, the Chicago Telephone Company, connect up its plant with the plants in these cities, in the Central Union territory, under a traffic agreement, or was there a prohibition against that connection, and a provision that the American Telephone and Telegraph Company alone could furnish the service between those communities?

"A. No, I don't think there was any such prohibition, to stop the Illinois Bell from going in there. The Amer-
3552 ican Telephone and Telegraph Company at that time had the facilities to take care of this particular business.

"Q. Was there any prohibition against the Central Union connecting up its plant with the Illinois Bell in those communities?

"A. The Central—

"Mr. Thompson: Just a minute. I think that is going rather far afield, to ask this witness about whether there was a prohibition as to what the Central Union could or could not do. The witness has explained that the American Telephone and Telegraph Company had the facilities which connected these cities that are listed on the exhibit marked D-134 prior to a certain date, and that after that date the Illinois Bell took it over.

"Mr. Goldstein: But he slipped in a statement that the reason was that the Illinois Bell could not handle the traffic, did not have the facilities, and the real reason is that the Illinois Bell could not connect, they took away the profitable business and gave it to the American Telephone and Telegraph Company prior to 1926, and it was not because the Illinois Bell did not have the facilities.

"If he stated the facts, let's get all of the facts.

"Judge Wilkerson: Do you know anything about it?

"A. All I know is, the American Telephone and Telegraph Company had the facilities, and the Illinois Bell didn't
3553 and the American Telephone and Telegraph Company handled it."

I don't know why the Illinois Bell did not have the facilities.

In Exhibit A-54, I show a net amount of credit to the Chicago division because of the use of the plant in Chicago for the downstate. In calculating the amount of credit to the Chicago division, I took into account the depreciation and a return on investment. I used 8 per cent, calculated on the book costs as the return on investment.

I estimated the amount of property that I allocated for downstate uses as follows:

In the case of the buildings, we had floor plans which showed the amount of space in company-owned buildings assigned to the respective departments, and from those blueprints we were able to determine the amount of space to each department, and that was related to the total space in
3554 the building, to determine the amount of space in the building, or percentage of the building used for State area purposes.

Exhibit A-55 was prepared by me. It shows the depreciation expense on a reproduction base. The depreciation expense was determined by taking the rate of depreciation expense for each class of plant (as we determined it in connection with our determination of depreciation expense on book costs) and applying it to the reproduction cost base as determined by Mr. Sloan. I took Mr. Sloan's reproduction cost new. All we did was to apply the rate that we had

determined in connection with the book costs to the figure
3555 of reproduction cost new. We had no other working
papers or calculations. I have not computed depreciation rates on reproduction costs in any other statements. The depreciation expense shown on our books is on the basis of book costs.

Exhibit A-56 shows the number of stations in use. In the illustration of a hotel with a thousand telephones it would be a thousand stations.

In Exhibit A-58, I used book cost of the State area property in my calculations. Exhibit A-58 was a statement which
I was requested by counsel to prepare, I don't know
3556 what his intention was. That exhibit includes general
equipment and construction work in progress. The Illinois Bell Telephone Company has a portion of its property in the state of Indiana; that property is included under the heading of "State Area" in this exhibit. The State area includes the balance of the property of the Illinois Bell in Illinois and in Indiana.

In connection with Exhibit A-61: the items pur-
3557 chased from the Western Electric that go into main-
tenance and are included in this exhibit are, in a general way, minor material items which are used in the repairing of plant, including also shop repairs which are performed by the Western Electric Company. It does not include any house service supplies, such as brooms, and cleaning compounds; that is really a house service charge, which is included in the departmental operating expense account finally.

In my exhibits showing net income available for return,
and the rate of return, I have used the amounts accrued
3558. for depreciation expense on the Company's books. The amounts accrued on the Company's books were not based on either the 1920 order of the Public Utilities Commission or the 1923 order of the Illinois Commerce Commission.

The dividend rate of the Illinois Bell during this period 1923 to 1931, and at the present time, has been and is 8 per cent.

The Illinois Bell, as of December 31, 1927, put on its books

the telephone instruments purchased from the American Telephone and Telegraph Company at the price paid to the American Telephone and Telegraph Company for those instruments. It did not carry over any depreciation reserve.

Plaintiff's Exhibit 13, record volume 4, is Illinois Bell Telephone Company's schedule of toll rates. It refers to the Illinois Bell's intrastate toll rates, and not to the long distance rates of the American Telephone and Telegraph Company.

Re-direct Examination by Mr. Thompson.

3559 At Mr. Goldstein's request, I made a search through all the directories issued in the city of Chicago to discover whether there was any advertising included in those directories which might be termed advertising on behalf of the American Telephone and Telegraph Company. I was able to find no advertising of any kind or character that answered that description, except and save only the statement appearing on Defendants' Exhibit D-128, which was for an issue in 1924. That was not a page advertisement in that directory, but was just a portion of a page. It appeared at the bottom of the alphabetical listings and was more or less used as a filler on that particular page.

3560 The Bell Telephone News is a publication that is circulated practically exclusively among the employees of the Illinois Bell Telephone Company; it is issued primarily for employees and has no general circulation outside.

Exhibit D-127 covered only the costs in connection 3561 with the sales to the public. In the last year or so there was a substantial amount of stock purchased by the employees of the Illinois Bell, under the Bell Telephone Securities Plan. This began the latter part of 1931, when the stock market price on American Telephone and Telegraph Company stock came below the subscription price at which the employees were subscribing for stock under the Employees' Stock Plan. Those costs are included in D-127.

No portion of the principal of the amount loaned by the

Illinois Bell to the American Telephone and Telegraph Company was included in our valuation figures at all.

3562 From time to time during this period we made appropriations of surplus for Pension Fund purposes. It is my understanding that it is not true that those appropriations were made for the purpose of making up past deficits. The appropriations were authorized by the Board of Directors; and carried as a part of our Benefit Fund Reserve.

We have only included in the plant investment of the Illinois Bell Telephone Company such purchases made from the Western Electric as went into our capital accounts. We have not included in our plant accounts any purchases from the Western Electric that entered into maintenance or any other expense accounts.

Re-cross Examination by Mr. Goldstein.

3563 There were no institutional advertisements in the directory; I can state that. I am positive about that.

3564 A search was made covering the period from 1923 up to and including 1931. I am reasonably certain that there is no institutional advertising of the American Telephone and Telephone Company in those directories. I had a very careful search made by the Publicity Department, and also the Directory Department, each one of which reported back there were no such ads in the directory. The only American Telephone and Telegraph Company advertisement appearing in those publications is the one advertisement to which we have referred in the cross-examination and re-direct.

The Bell Telephone News is published monthly. A large number of these Bell Telephone News has on the back sheet an advertisement of the American Telephone and Telegraph Company; I don't know if it is all of them or not.

3565 There was a study made by the American Company as of 1926 to determine what the Pension Fund should be on an actuarial basis. I couldn't say that a transfer of surplus to the Pension Fund was at that particular time. I think it was prior to that time. This study I am referring

to, I think was made in the year 1927, after we had established our Pension Fund; but any transfer from surplus to the Benefit Fund Reserve was made prior to that time,
3566 around 1926, 1925, 1924 or somewhere in there. The books would show it.

Redirect Examination by Mr. Thompson.

We had no accruals to our Pension Fund Plan in the Illinois Bell prior to January 1, 1927, when this new plan started. So any appropriations that were made before January 1, 1927, out of surplus could not have been made to cover any deficit under this new plan, until January 1, 1927. What had been appropriated theretofore had been under the old Benefit Fund Reserve. There has not been included in any of the exhibits shown in this case, upon which the Company is claiming a return, any property valuation for any property outside of Chicago.

3567 "Mr. Thompson: Now, we offer, or ask the Court to rule upon offers previously made of Exhibits A-48 to A-63, and A-183 to A-192, both inclusive, which were offered during the course of Mr. Kruse's testimony.

"Mr. Goldstein: We object to them on the grounds heretofore stated, and we object that they include figures taken from exhibits or based upon facts to which we objected.

"Judge Wilkerson: Overruled for the present."

(Which said documents, so offered and received in evidence, were marked Plaintiff's Exhibits A-48 to A-63, and A-183 to A-192, both inclusive.)

3568 "Mr. Thompson: I will ask to have identified Exhibits 204 and 205. That is 204, in 18 sheets. They are nothing you will object to, Mr. Goldstein.

"The plaintiff offers in evidence his instrument identified as Plaintiff's Exhibit 204, consisting of 18 sheets, which consists of certain supplementary sheets to the Western Electric supply contract introduced on the former hearing and also Plaintiff's Exhibit A-205, which is the standard supply contract between the Western Electric Company, Incorporated, and the Illinois Bell Company, dated June 2, 1930.

"Mr. Goldstein has copies of all these papers.

"Plaintiff also offers in evidence Exhibit A-206, which consists of certain resolutions of the Executive Committee of the American Telephone and Telegraph Company, correspondence between the American Telephone and Telegraph Company and the Illinois Bell Telephone Company, a resolution of the Board of Directors of the Illinois Bell Telephone Company, all relating to the execution of the latest license contract agreement between the two companies, dated September 25, 1930, which is also a part of this Exhibit 206.

"Plaintiff now offers in evidence Plaintiff's Exhibit A-207, which is the Plan for Employees' Pension and Disability Benefits and Death Benefits of the American Tele-
3569 phone and Telegraph Company.

"Mr. Goldstein: Mr. Thompson, is that the memorandum stating what the plan is, descriptive of it, or is it the plan itself, the personnel?

"Mr. Thompson: It includes the plan itself, plan for employees' pensions.

"Plaintiff also offers in evidence Exhibits A-208 and 209 to the Plan of the Illinois Bell Telephone Company for Employees' Pensions, Disability Benefits and Death Benefits, and Amendments Thereto, which were effective January 1, 1930."

(Which said documents, so offered and received in evidence, were marked Plaintiff's Exhibits A-204, 205, 206, 207, 208 and 209.)

3572 M. H. RILEY, called as a witness on behalf of the plaintiff, having been previously duly sworn, resumed the stand and further testified as follows:

Direct Examination by Mr. Bracelen.

June 1, 1932

The four sheets which comprise the exhibit I now present, marked A-210, correspond to four sheets in exhibits that were introduced as a part of my testimony in chief.

The first sheet of this exhibit correspondents to sheet No. 10 of Exhibit A-35, Account 242, Exchange Aerial Cable. The purpose of this sheet now being identified by me is to correct the sheet of the previous exhibit for a slight error. The changed figures are shown in red ink on this sheet.

3573 Referring to the item, Sheath Defects in reference to Cable, shown in the first horizontal column: the column lettered (a) shows a 2 per cent allowance for defects found by inspection in the cable sheath.

I testified on direct examination that this 2 per cent was arrived at by evaluating the sheath defects in dollars, and relating the dollars to the original cost of cable, so that my testimony was that the number of dollars that I estimated would be necessary to restore the cable to substantially new condition, so far as the sheath defects were concerned, represented 2 per cent of the original cost of the unit of cable.

"Q. Then in the original cost you apply to that 2 per cent, as well as to the 2.77 per cent of depreciation for defective pairs, the factor of 82 per cent, that being the per cent depreciable value allowance for net salvage in the column marked with the letter (b) in the original sheet, and marked with the letter (c) in the substituted sheet.

"A. Well, except that the 82 per cent there is the per cent depreciable value after allowing for salvage, after de-
3574 ducting for the net salvage."

The point to my testimony here this morning is that the 82 per cent factor was not properly applied to the 2 per cent for sheath defects, by reason of the fact that it was based on dollars.

I have made the correction shown in the red figures and get finally in the lower right-hand rectangle on this sheet, a total of 88.81 as the composite per cent condition for the entire account as against 88.92. I testified on my former examination that in all instances I dropped the fraction so that the difference resulting from this correction is that I now drop a fraction of .81 as against having dropped a fraction of .92 before. So the figure carried into the per cent condition

figures that were shown in Mr. Redmund's summary exhibit, of course, is not changed at all.

3575 : Sheet 2 of this exhibit is the same as sheets Nos. 1, 3 and 14 of Exhibit A-37. In Exhibit A-37 there were two similar sheets, except that one was smaller than the other, so this takes the place of both of them. This makes a similar correction for the same factor of sheath defects and for the same reason.

Sheet 3 of this exhibit is sheet No. 5 of Exhibit A-38, Account 252, Toll Aerial Cable. The same thing is true of this sheet.

Sheet 4 is the same as sheet No. 13 of Exhibit A-38, covering Account 255, Toll Underground Cable. The corrections in this sheet are also explained in the same way.

(Plaintiff offered Exhibit A-210 in evidence. Received.)

3576 W. K. KRUSE, recalled as a witness on behalf of the plaintiff, having been previously duly sworn, further testified as follows:

Direct Examination by Mr. Thompson.

June 1, 1932

During the cross-examination of Mr. F. F. Cleveland, Vice President in charge of the Financial and Accounting Department of the Company, the other day, a request was made that a statement be prepared showing for the first three months of this year the revenues, expenses and net income of the Telephone Company, particularly with respect to from what sources it had procured the money with which dividends and interest were paid during the first quarter of the year. I have prepared such an exhibit.

3577 (Which said exhibit was identified as Plaintiff's Exhibit A-211.)

The dollars by which the Illinois Bell Telephone Company failed to make its interest and dividend requirements for the

first quarter of 1932 out of its telephone operations are shown by the third line from the bottom as $747,904. As shown by the next to the last line on this exhibit the Company received during this quarter certain net non-operating revenues (from other than telephone operations) amounting to $727,201.

A small portion of that item of $727,201 arose out of or from property which is included in the book cost of the plant as shown in my exhibits, or in Mr. Sloan's reproduction cost new. The amount applicable to the Chicago plant, included in the valuation figures in this case, amounts to approximately $8,000 and for the Company as a whole slightly less than
3578 $25,000. So more than $700,000 of the non-operating revenue as shown on the second line from the bottom of this exhibit, arose out of property which is not included either in book cost of the plaintiff's plant in the exhibits in this case or in the reproduction cost new. A substantial part of this non-operating revenue of $727,201 applied to the period prior to 1932, but was received in the first quarter of 1932. Between $450,000 and $500,000 of this amount applied to the period prior to 1932. This $727,201 covered a period of approximately four years; from March 1, 1928, to Decem-
3579 ber, 1931. That was revenue from a warehouse owned by a subsidiary corporation of the Illinois Bell Telephone Company and leased by it to the Illinois Bell Telephone Company and to the Western Electric Company.

Cross-Examination by Mr. Goldstein.

We carry our expenses on an accrual basis.

Those expenses for the first quarter as shown in the statement representing accrued expenses are really negligible items. I am trying to think of a few cases like bills
3580 which we have received, taxes, payrolls which have not yet been paid as of the end of the month and bills where the cash would be actually paid in the following month. I have also included in this statement liabilities for which the actual cash will be paid later.

Re-direct Examination by Mr. Thompson.

3581 I have included in Exhibit A-211 that portion of our tax liability for the year 1932, which is applicable to the three-month period and also have included in our liabilities, items incurred during the three-month period with respect to business transacted in the period but where the cash will be paid maybe 10 days or 15 days later.

"Mr. Bracelen: I desire to inform the Court that yesterday afternoon, pursuant to my promise and statement made in open court, I examined all of Mr. Goldstein's requests for specific portions of the provisional estimates, and for definite facts and figures from the various reports that had been submitted to him for inspection, and we are prepared to permit Mr. Goldstein to take all of that data and information as thus specified by him, and it will not be necessary for us to take the Court's time in any dispute about the matter.

"Mr. Goldstein: I would just like to make this comment: the request that we made on the C. R. reports, is the
3582 identical request we have made in connection with the motion. We have made no specific request for information; that is, we asked for the C. R. reports in their entirety in the same manner as before. As to the provisional estimates, we have asked for such portions thereof as we think we can use within the few days' time that is available to us, and we will proceed with as much expedition as possible.

"Judge Wilkerson: The statements of counsel will go into the record, for whatever use may be made of them hereafter on the motion, to be addressed to the Court."

Plaintiff rests.

4085 R. H. GREGORY, a witness on behalf of the plaintiff, having been previously duly sworn, resumed the stand, and testified further as follows:

Re-cross Examination by Mr. Goldstein.

June 7, 1932

I testified that when the Electrical Research Products was organized, the Western Electric transferred to the Prod-
4086 ucts an option which Western Electric Company had acquired to purchase the capital stock of the International Telephone Sales and Engineering Corporation. That assignment (or transfer) was covered in the general clause in the contract, and the assignment was actually made a few days later, I think in the early part of January.

(Document purporting to be assignment from Western to Electrical Research Products acknowledged January 3, 1927, marked for identification Defendants' Exhibit D-135.)

4087 I had reference, in the first place, to a resolution of the Board of Directors, which authorized the contract, Defendants' Exhibit 4 in Depositions. I presume that same clause is in here, although I have not examined it for that particular purpose.

4088 The clause I refer to is Clause Number 14, which states that:

"All right, title and interest which the Western Company has the right so to transfer in and to all contracts, good-will, patents, trade-marks and trade names of the Western, in so far as, but only to the extent that the same respectively pertain to the business of property agreed to be transferred pursuant to the provisions of an agreement between the Western Electric Company and the Products Company, dated December 30, 1926, and subject to all of the reservations, terms, conditions and limitations in such agreement contained."

The agreement to which that clause refers is Defendants' Deposition Exhibit 4. That is the clause that I rely on.

4089 Defendants' Exhibit D-136, entitled "Net profits on sales of new A. T. & T. instruments, 1916 to 1927 inclusive" brings down the net profits to sales to include the year 1927.

A portion of the penciled memorandum furnished defendants which reads: "Average investment in A. T. & T. instruments business 1927, $6,093,000". That figure means that the average amount of investment applicable to new American Telephone and Telegraph Company instruments for the year 1927, including plant, merchandise, receivables, or less payables applicable, cash, amounted to $6,093,000.

Investment in plant, was figured on the cost of plant, the book cost of plant, the proper proportion of the book cost of plant applicable to instruments.

We made for this particular year at the request of Mr. Goldstein, an apportionment of the total operating plant of the Western Electric between telephone instruments on the one hand, and all other Western Electric manufactures on the basis of ratio of cost of sales of one to the other. We

4090 made no study, either of profits or of plant investment, or total investment, for the year 1927, as we were not particularly interested in those results, as it would affect our profits to no extent whatsoever, whatever the results were. We had to do this five years after the event; in order to give defendants a figure for the investment during that period; what we did was to give defendants the figure which represented the average condition during the previous years, ending 1926, and it is broken down on the basis of the average conditions, that is the best that we could do at this time, in order to satisfy defendants' request.

"Q. Mr. Gregory, did you make each year, or about the end of each year, a study, from 1916 to 1926, inclusive, showing your net profits and return on investment of telephone instruments in the regular course of business?

"A. In the regular course of business each year, we made

the study of the net profits on sales, but not the net profits on investments."

We discontinued that practice for the year 1927 be-
4091 cause from 1927 on the instruments were sold generally to all Bell customers, and not solely to the American Telephone and Telegraph Company. Prior to that time they were sold to the American Telephone and Telegraph Company under the contract of 1882, which was on a cost plus basis, and it was necessary for us, therefore, to make a study each and every year, to see how we were coming out in accordance with the provisions of that contract. At the end of 1926, the prices were set for 1927; at the end of 1927 the change in practice was made, and it was not necessary for us to make any study to set the prices for 1928 on the basis of the cost plus contract of 1882.

I have no recollection as to the exact date when Defendants' Exhibit D 137 was prepared. My statement is that we were interested in the net profits on sales, and this statement
4092 was made up at the time, when, as I recall it, I was trying to get some idea of the turn over, that is, the relation of investment to sales, to which I testified here previously, which was eight tenths of one time. It was on the basis of these figures that I testified in that way. These figures are only approximate figures, and that is the reason why I testified on the basis of eight tenths of one time, rather than to attempt to give the exact figure.

I would not say that no study was ever made showing a return on investment to the Western Electric, resulting from the sale of telephone instruments, but all I am trying to emphasize is, that our purpose was to know what the net profit on sales was, and we were not particularly interested in the net return on investment. We might have made that from time to time, but we were not particularly interested in return on investment.

To the best of my knowledge, and the best of my belief
4093 I have not seen a return on investment figure, although I might have in those earlier years, 1916, 1917, (ten or twelve years ago). We may have made them up, and it may

be those are in the files, but I have never paid any particular attention to them, because they were of no interest to me.

Whether a study of the net profits to investment was made in the regular course of business at the time when we made up the study of net profits on sales, I couldn't answer without going back. My recollection, though, is as I have testified, that we were not interested in it, and I did not pay any particular attention to the return on investment.

Defendants' Exhibit D-137 was prepared under my supervision.

I presume most of these figures could be found in the details in each of the years.

4094 I do not know whether the figures for the investment shown on sheet Defendants' Exhibit D-137, were computed for the first time in connection with the preparation of Defendants' Exhibit D-137, or whether they are taken from studies that were theretofore made. I will have to repeat, as I said before, that I was interested solely in the return on sales, and these figures on investment may have been made in those various years.

The figures shown in the second to last column of Exhibit D-137, "Average Investment", were based on the best estimate we could make of the average amount of plant,
4095 merchandise, receivables, cash, less payables, applicable to instruments in each of those years. The average investment as used in that sheet was to the best of my knowledge arrived at in the same manner as we arrived at average investment in connection with Exhibits A-77 and A-79, which we introduced.

The sales of the telephone instruments are included in the sales to Bell customers, as shown in Exhibits A-77 and A-79. In computing the cost of sales, we took those into account also.

Re-direct Examination by Mr. Thompson.

Our sales of telephone instruments, prior to January 1, 1928, were sold to the American Telephone and Telegraph Company and subsequent to that date, to the various Bell associated companies.

4327 JOHN R. TURNER, recalled as a witness on behalf of the plaintiff, having been previously duly sworn, further testified as follows:

4328 *Cross Examination (Continued) by Mr. Goldstein.*

June 9, 1932.

(Document entitled "Illinois Bell Telephone Company, comparison of depreciation expense actually charged to certain accounts and as modified on basis of present view, 1932" was marked Defendants' Exhibit D 138, for identification.)

That is for the years 1923 to 1927, inclusive.

On page 6 appears the heading, "Illinois Bell Telephone Company, Chicago area, comparison of depreciation expense actually charged for certain accounts, and as modified on basis of our present view, 1932", and underneath that 4329 is the year 1923. The first column is entitled "Actual expense", and underneath that is shown "Central Office equipment, $2,003,375.89". That represents the application of the rate for central office equipment that was actually used in the year 1923, to the average investment in that type of property during that year. I make that statement because I have not taken into consideration any possible accounting adjustments. What we are trying to determine here is a comparison of the rate of depreciation that was actually used in that year, and the rate that I now view as a proper rate based on my analysis of past experience. That is the actual expense using the rate that was used as the result of Mr. Hale's computations.

My present view for the same item is $1,853,122.70. That is my present computation of what the 1923 expense 4330 should have been on the basis of the rate as I would have computed it in 1923, applied to the investment in central office equipment. According to my calculations, the actual expense as the result of Mr. Hale's studies, was excessive, according to my view at this time, for the year 1923, in the amount of $150,253.19.

Similarly according to Mr. Hale's computations the actual expense as recorded on the books applicable to Station Apparatus for the year 1923, was $585,153.58. That amount was $108,671.38, in excess of the amount that I would have set up on the basis of my view of the rate at this time. The amount which I would set up at this time is $476,482.20.

I do not want any misunderstanding about the word "excessive". When I use the word "excess" or "excessive" there I mean that the amount of depreciation ex-
4331 pense resulting from the application of the former rate in 1923, for that particular item of property, was greater than would result from the application of the rate that I would now estimate for that year, by the amount stated. That is if I were doing the same thing Mr. Hale did, but with the knowledge that we have acquired since 1923 to the present time, I would have had a depreciation expense $108,671.38 less than Mr. Hale showed, and which was used on the books of the company.

On Booths and Special Fittings, my view would have resulted in a depreciation expense of $9,235.30 less than the result of Mr. Hale's view on a total actual expense as charged of $21,109.26.

On the charges made under Mr. Hale's computation for Exchange Pole Lines of $160,246.98, I would have had a charge less than that amount, by $45,899.14.

For Exchange Underground Cable Mr. Hale's com-
4332 putations resulted in $471,739.42 and my computations show that that was too low by $157,246.42.

For the year 1924 for Exchange Pole Lines I found that according to my view Mr. Hale's computations resulted in a recorded actual expense which was $53,056.71 too great on a total charge of $173,010.99. On Booths and Special Fittings I found that Mr. Hale's computations resulted in a depreciation charge that was $10,329.19 too high on a total charge of $23,609.57. Similarly on Station Apparatus, for 1924, I find that Mr. Hale's computations resulted in a charge that was too high, by $28,537.61 on a total charge of $570,452.31. On

Central Office Equipment I find that he was too low by $88,713.56 on a total charge of $1,961,269.54.

4333 For the year 1925 I find the result of Mr. Hale's computations was too high for Exchange Pole Lines by $57,679.51 out of a total charge of $188,085.36. On Booths and Special Fittings, I found that he was too high by $13,036.26 out of a total charge of $29,797.16. He was $21,146.65 too high on $634,399.36 charged for Station Apparatus. He was too low by $131,823.62 on his actual expense on Central Office Equipment of $2,208,049.05. He was too low for all of the accounts for that year.

That is, for the year 1925, if you take the $131,823.82 when he was too low, and then add up the sum total of the three items he was too high on, you get a net result that was too low on those four items. On the same basis, for the

4334 year 1923, if you add the four items on which he is too high, and the one item on which he is too low, you find the result is, on those five items, he was still too high $156,812.53. If you add the three items upon which he was too high, and the one item where he was too low for 1924, your find that he was still too high in the net result on those four by $3,209.95.

I examined all of the accounts. These are the accounts in which I would substitute my judgment for that of my predecessor. I have here in court data concerning the other accounts. This data was not included in D-128 because, as

4335 I say I did not consider that the differences between my view and my predecessor's view justified the substitution of a rate by me for the rate that was actually in effect. I will make this data available to defendants. This data was prepared a little in advance of that statement. That was I believe some three months ago or so. The results of the total accounts are shown here. I have in the book a brief discussion of my consideration of every depreciable class of property. Now, I have not the details of certain accounts,

4336 because that merely consisted of an examination of the past analyses which have already been made available to defendants and a determination as to whether those would

justify any difference in the life or salvage estimates of my predecessor. If I concluded that they would not, why, that is all the supporting data we have. But that phase of the study is available to defendants in our detailed studies of life and salvage.

"Q. When you say that is available, you mean that the studies upon which you based your conclusion, are available, but you have no other data other than what is shown here, as to the items as to the data which is not shown, other than the conclusion which you drew from these particular studies?

"A. An outline of that conclusion is contained in here, and the reasons for not varying from the former estimate of life and salvage, in that book.

"Mr. Bracelen: May I say at this time, of course, it is all available to Mr. Goldstein, and has been.

"The Witness: Yes, sir.

"Mr. Goldstein: We are talking now about the—

"Mr. Bracelen: Let us have it clear.

4337 "Mr. Goldstein: the data upon which he based his conclusion as to the items which are not contained in these two documents.

"Mr. Bracelen: I am talking about all of the data there is.

"Mr. Goldstein: Yes.

"Mr. Bracelen: All right."

For the year 1927 I found my view here that Mr. Hale's computations resulted in an actual expense for Central Office Equipment which was too low by $174,577.20 on a total charge of $2,924,168.22. He was too high by $19,828.11 on a total actual expense of $39,656.22, for Booths and Special Fittings. He was too high by $71,456.49 on a total charge of $214,369.47. The total of the one adjustment where he is too low, and the two adjustments where he is too high makes the three items too low by $83,292.60.

4338 In connection with this study for central office equipment for the year 1923 I have used the same life and salvage that I now find to be proper for the offices that were in service in 1923, and are now surviving. For the offices that have been retired prior to the present time, I determined the

actual life and the actual salvage associated with those offices, and from that information I determined the annual rate of depreciation applicable to the investment in the year 1923, in central office telephone equipment. That was deter-
4339 mined for each class of central office equipment, manual, toll and other equipment of central offices, and composited on the basis of the relative investments in that year, resulting in a composite annual rate of depreciation for central office equipment of 7.4 per cent. The rate that was actually used by the company in that year was 8 per cent.

I have applied the rate of 8 per cent to the average investment representing equipment in service during the year 1923, and I arrived at the depreciation expense which you have referred to, and which is shown in this exhibit as $2,003,375.89, as the expense resulting from the rates actually used in 1923.

I then applied the rate resulting from my examination of my own analysis of past experience (that is, 7.4 per cent) to the same average investment, deriving an expense of $1,853,122.70; and in order to determine the difference in depreciation expense between the two views, I subtract the latter from the former figure, and I find that the expense resulting from the rate actually used was $150,253.19 greater than would have been the case had the rate that I now consider proper been used at that time.

4340 I do not give effect at all to the existence of dial offices in 1923. Our rates are determined on the basis of the various weightings of property at the beginning of each year and each year that composite rate is changed in accordance with the changing investment that occurs during the previous year. The dial office equipment had a lower rate than the manual office equipment. If in 1923 there had been dial office equipment in service and if I had had the rate for the dial office equipment there would have been a slightly greater discrepancy between my view and Mr. Hale's.

4341 The dial office went into service in the latter part of 1923. You can get a pretty good idea of what the effect of that would be by comparing the rates in this statement for the years 1923 and 1924. The rate in 1923 which excluded dial

equipment (because dial equipment was placed in the latter half of the year) was as I stated before 7.4 per cent. In the year 1924 with the same life and salvage for all the other items in that account, because of the influence of the dial equipment throughout the entire year, the rate was 7 per cent. Now it is obvious that the rate would have been undoubtedly somewhere between 7.2 per cent and 7.3 per cent instead of 7.4 per cent. What I had in mind when I said that the
4342 difference would be slight was that that difference would have been about one tenth to two tenths of one per cent on the investment.

4343 I have computed the approximate effect which would have resulted had we applied the lower rate to the dial central office equipment. It would range somewhere between $25,000 and $50,000 for the year, I would say. Of course, I am only estimating the length of time that the dial equipment was in service. I have not the exact figures on that, because we do not account for the property in that manner, but comparing the rates that I have found for 1923, without any dial, with the rates I have found for 1924 with dial throughout the entire year, you have a difference of four tenths of a per cent, so from that comparison, I would say that the rate in 1923, if dial had been included, would have been somewhat in excess of 7.2.

In my computations I have considered that the dial equipment was in service something less than six months. As I recall it it was in service about 5 months, although I am
4344 not certain of that. Were I to assume that the dial equipment was in service as of June 30th, the difference would be somewhat greater. It would be something less than 7.2 per cent and the difference in money would probably be something over fifty thousand dollars. That is a very rough approximation.

You would get the same result if you took the rate that we used for dial, say in 1924, of 5.3 per cent instead of the 7.2 per cent which we used in 1923 for manual, and applied it to the book investment of the dial for the part of the year that the dial was in service.

If you accounted for it by including the dial equipment as
of June 30, 1923, the amount by which Mr. Hale's com-
4345 putations differed from those I made, on the basis of our
present experience, would have increased by $50,000 or
thereabouts.

The reason we did not include the dial was as follows: What we do is to determine the rates for each class of property within an account. Then, in order that the accountants may apply a composite rate to the total dollars within an account, we weight together these various component rates of the different classes of property within the account, on the basis of the relative investment at the beginning of the year in which the composite rates are to be applied.

Page 10 of Exhibit A 125 shows the depreciation rates applicable to classes of plant effective January 1, 1921, for the Chicago area. It shows the life, the salvage and the depreciation rate, and the composite rate by accounts for cen-
tral office equipment. That rate was applied in 1923.
4346 They did not do that annually in those days but had
they done it, the depreciation expense would have been greater than the way it was done.

The rate that was applied in 1923 to the central office equipment was the rate established in 1921. It was not changed until January 1, 1924. Since the beginning of 1928 we have re-composited the class rates annually. In 1923 we applied to the central office equipment the rate that was established
in 1921, and that rate did not take into account any dial
4347 equipment. Therefore the results of Mr. Hale's study
did not include any effect of the existence of dial equipment in service in the year 1923. My computations as of 1932, showing the present view of these rates, does not give any effect to the dial equipment, in the year 1923, because it was not in service throughout the year. I am just talking about 1923.

My conclusion as to life differed from Mr. Hale's conclusion for central office equipment. As a matter of fact, in the
former studies there was a composite life estimated for
4348 the various classes of central office equipment, while I

have estimated life for each of the several classes, so that I naturally get a difference as shown by this statement which I gave counsel for the defendants.

I don't recall the exact result of the study upon which the 1923 rate was based. The life that was actually used was ten years. I have in the court room the papers showing the studies of 1923. That study made in 1921 shows that an analysis over a period from approximately 1900 to 1920 indicated an average life of 10.51 years. They used ten years.

In 1932 I made a re study of the conditions as of 1923, 4349 and my studies showed that for the offices in service there was a life of 11.8 years instead of 10.5 as shown in the 1921 study and I lengthened the life of 11.8 years to 13 years. That is, I increased the life developed from my study as I have explained in my testimony to make allowance as I see it for a longer life resulting from business conditions.

One of the steps that I took was to find out what the study showed and then modified that, as a result of what has been called here judgment, as to the actual life figure used.

"Q. Now, then, as I understand it, the study that was used for the actual 1923 expense showed a life of ten and a half years, and that ten and a half years was shortened to ten years. Your study for the year 1923 showed 11.80 instead of ten and a half years, and, instead of cutting that down, as was done in the 1923 study, you lengthened it to thirteen years in your figures, is that correct?

"A. No, there is an implication in your question, Mr. Goldstein, that my predecessors would have to use a 4350 study that represented the experience of 1900 to 1920 in getting at some life estimate in 1921 on into the future. Now, I don't know anything about that. I know they used ten years, and I am using thirteen years for a particular type of equipment.

"Q. Yes.

"A. But, then, on the other hand, I am using seven and a half years for toll equipment.

"Q. Let's stick to this one thing. I am trying to get methods.

"A. You are talking about two different things. I want to bring that out."

In 1923 a study was used which was modified by the fact as of judgment, that is a study is an aid to judgment. That was the practice then and is the practice now. We make a study and we formulate a judgment. The estimate of
4351 life is not necessarily based on that study. That is, the study shows what has happened in the past, for instance, and then the man who is responsible for determining what is proper for the present and future considers anything that might affect life. He is guided by that actual past experience to whatever extent he thinks it is advisable to do so.

"Q. You said that the study refers to things in the past. Are we to take it, from that, that your original testimony and the exhibits predicated on that, in which you also considered the future conditions, that that is not to be considered as a study?

"A. I am speaking of the study made in 1923 and I understood you were."

I have a figure which is arrived at as the result of a study, whether the past or the future, depending upon the character of the study.

One way of expressing it is as you state; that is that we either accept the result of that study or modify it by the factor of judgment.

4352 The 1923 study showed that the life was ten and a half years and that was modified by the factor of judgment to ten years. In my study in 1932, for a different kind of equipment, taking into account the knowledge that I now have, and the difference in the method of making our studies, and the different factors that we take into account, I find the life was 11.80, as of 1923, and I modified that by increasing it to thirteen years.

I did not use thirteen years for the same central office equipment that Mr. Hale used in connection with his study, and which I compare on page 1 of Exhibit D-138, and the exhibit is very clear that I did not. The exhibit shows very clearly that where they used ten years for all types of central

office equipment, I used twelve and a half years for manual, seven and a half years for toll, and nine years for other
4353 equipment for central office, so that that is the true comparison.

Neither the 1923 study nor my study for 1923 includes any dial. I am afraid that Mr. Hale's study does not disclose whether he included toll but it is my opinion that his study includes both toll and other equipment of central office.

His study and mine did not include a study of the identical property in connection with the thirteen years that was referred to. The study that I used to obtain 11.80 and
4354 Mr. Hale's study do not include identical property. The 11.8 is just for local manual central office equipment. Now, as to the toll equipment, the rate that I have used in 1923 as a comparison with Mr. Hale's work is the actual rate of depreciation experienced by the toll equipment, and it is set up separately on this summary sheet.

The items of equipment which are used in the Hale study correspond in total to the items of equipment which I used in my study. That is, the rate that I have used of 7.4 includes all of the items that are included in Mr. Hale's rate of 8 per cent.

4356 Page 21, entitled, "Manual Central Office Equipment, Calculation of Composite Average Service Life for Offices in Service December 31, 1932" shows 11.80. That figure is the average realized life of all offices in service, December 31, 1922. This was a study of realized life of the
4357 offices in existence on December 31, 1922, from which we obtained 11.8 years. Now, in order to be consistent with our present views, which, as you have stated, resulted in an estimate of thirteen years against a study of 11.8, I increased this life expectancy to thirteen years, and then, as the figure just below it shows, I determined the actual life of the retired offices, that is, the offices retired subsequent to 1923, but which were in service at that time, which was 10.87 years, and that, weighted by the relative investment with the thirteen-year estimate, resulted in twelve and a half years, which I used in this comparison. Now, with that explanation of the computa-

tions which resulted in 11.80 I used the method that I have described in connection with my direct testimony, and on cross examination, of getting the composite rate from the entire experience of the unit of property.

I take into account the future additions in getting at
4358 the rate. In arriving at 11.80 as of 1923, and taking into account the future additions, I have taken the future additions at the actual figures of the additions and retirements as made from 1923 to the date of my study. If I were making this rate in 1923, I would put in the figure for the future additions up to 1932 representing the actual experience.

4359 (Statement containing two headings: One, "Investment in Manual and Dial Central Office Telephone Equipment", and the other "Gross Additions and Displacements, Kedzie Central Office Equipment", marked for identification as Defendants' Exhibit D 139.)

I show on page 5 of Exhibit A 128 the estimated requirements for the future additions for the Kedzie office, for the year 1930 as $36,000. The study on page 5 of A 128
4360 was made fairly early in 1930. According to D 139, the actual gross additions for that same year were $122,411, instead of the estimate of $36,000. I estimated displacements for the year of only $700. That also is part of my study made in the early part of the year.

"Q. But according to A 139, it turned out that these displacements were $16,884, is that correct?

"A. Well, Mr. Goldstein, I think you misunderstood the direct testimony, as to just how we make our additions to central office equipment; if I may explain that just briefly."

In estimating future additions, we do not attempt to deter-
mine just how the additions will go into service. It is
4361 customary in manual central offices to put in an addition that is good for about three years growth, and we could not very well ascertain just how those additions would be made in the future, so what we did was to translate the line growth for each year into terms of central office equipment, and merely showed the additions for individual years on that basis, real-

izing, of course, that they might go in in the first of the three years, or the last of the three years. In order to get a true comparison, if you are attempting to criticize my estimate for 1930, if you will compare the gross additions in the year 1930 with the estimates for the years 1930, 1931 and 1932, you will find that it was a very good estimate on that basis.

The figures on page 5 of Exhibit A 128 show an estimated gross addition for the year 1930 of $36,000. I used that figure in arriving at my result with what I thought was a clear
4362 explanation, that we do not contend that that is all that would be spent in that year. It is the equivalent of the line growth, and, therefore, we have distributed the three year addition over the three years individually, in accordance with each individual year's growth.

The result mathematically would be somewhat different if, instead of having thirty six thousand in 1930, I had one hundred and twenty two thousand in 1930. In other offices it would work in the other direction. That is the reason for doing it. The result would be somewhat different in an individual office but we are studying the life of manual equipment in some thirty offices in the city of Chicago.

4363 In the year 1931, as shown on page 5 of A-128, we used $51,100 as the estimated additions for the Kedzie office. The actual gross additions for that year was only $14,527.

The estimate for 1932 appears on page 5 of A-128. I am not talking about the actual in 1932. We have not got it yet. I am talking about the actual expenditures in the years 1930-31 covering a three year period. If you will examine our estimate of those three years, (1930-32), you will find the sum we estimated was $137,000, and the actual was $137,000. When we put in equipment in 1930 we expect that to take care of our estimated requirements in 1930, 1931 and 1932.

4364 I have stated repeatedly that we make our additions to manual central office equipment on approximately a three-year interval basis. Of course, we have small additions that occur in intervening years, such as this fourteen thousand dollars you refer to in 1931. Well, the sum of those two

items is approximately the same as the estimate for the three years of 1930, 1931 and 1932. In making our estimates, as I have said before, we do not attempt to determine in just which of the three years the equipment will go in. That is a very difficult thing to forecast, but we can forecast the amount of equipment that will be needed in the immediate future on the basis of increasing lines and calling rates.

My computations take into account the estimates for the particular years as indicated in the study and we do that because we believe that, with thirty offices, there will be
4365 an equalizing effect. If you pick out one office, you may be able to criticize the method to some extent, but we are dealing with the city of Chicago.

The actual gross construction for the year 1930 was $122,411 in the Kedzie office and on page 5 the estimate is $36,000. (Plaintiff objected as repetition. Overruled.)

My study of the salvage of central office equipment consists of my present estimate of salvage for those offices which now survive and were then in service in 1923, and the actual salvage derived from offices that were in service in 1923, that have since been retired, weighted together in accordance with the relative investment in the two groups. I have my
4366 own study of the salvage that has occurred in all years back to 1914, in Exhibit A-128.

4368 The 1921 study, which was used as a basis for the conclusion for 1923 did not show the salvage any later than 1921, but apparently that salvage was made up at the end of the year. It does not show anything later than 1921 so I could not make a comparison there. Mr. Hale's study used the experience up to 1921. He used 20 per cent for salvage.

"Q. Now, you used 10 per cent instead of 20 per cent as your final figure for salvage, is that correct?

"A. Well, again, you are getting a distorted picture here. You are dealing in one case with offices which were in service then, some of which have since been retired. Now you are dealing with the surviving offices."

4369 As I explained we used the same salvage that we are

using now for the offices which are now surviving, that were in service at that time, and the actual salvage on the others. I used 10 per cent as a salvage figure for manual, and 22 per cent for toll, and 50 per cent for other equipment, as compared to Mr. Hale's composite percentage of 20 per cent. That 20 per cent is the composite percentage for manual, toll and other equipment of central offices the same classes of property as mine. Instead of using the one composite, as he used, I used 10 per cent, 22 per cent and 50 per cent for the individual classes. That is because we are now studying those things individually; we think we have better answers for them.

In arriving at the 10 per cent, I took into considera-
4370 tion the experience that we expect from offices in service in 1923 and still surviving, with the present view as to the dial situation, which was probably not as well understood at the time, in the year 1921, when the former rates were made up. I also took into consideration the actual net salvage derived from retired offices that were in service in 1923.

In the case of salvage I did take into account the dial situation in its effect on the manual equipment when that is retired. I took the dial equipment into account in the case of life of manual equipment. I explained that quite thoroughly in my direct testimony. We did not apply a rate for dial equipment in 1923, but I do not see any connection between that and the fact that we have taken into account the effect of dial equipment in determining the life of manual equipment.

4371 In connection with the salvage figure of 10 per cent we examined the actual salvage experience for this type of property and decided whether we might be so fortunate in the future as to derive the same amount of salvage, and came to a conclusion of 10 per cent for this particular type, local manual. The study that I used as an aid in arriving at the conclusion of 10 per cent as a fair net salvage for the present equipment is shown on page 7 of Exhibit A-128.

4372 In Exhibit D-139 I have shown a difference between the study that I was examining, and my own re-study

for central office manual equipment for the year 1924. My predecessors used a composite rate for all types of central office equipment, of 6.7 per cent, which was based on an average life of 12 years, and a net salvage of 20 per cent. My estimate of the various types of central office equipment in 1924 is as follows: Local manual equipment, a rate of 7.2 per cent, based on an average life of twelve and one-half years, and a net salvage of 10 per cent. Dial equipment, a rate of 5.3 per cent, based on an average life of eighteen years and a net salvage of 5 per cent. Toll equipment, the actual rate which was determined from the actual experience of this equipment, which has been completely retired and the in-
4373 formation made available, 10.4 per cent, based on an average life of seven and a half years and an average net salvage of 22 per cent. And for other equipment of central offices, a rate of 5.6 per cent, based on an average life of nine years and an average net salvage of 50 per cent.

I examined the 1924 study. I don't know that any study will show the method of arriving at a conclusion of life. The 1924 study showed that the turn-over-cycle method was used and 15.3 years was the life that was shown by this study for the turn-over period ending in 1932. I don't know whether or not the other studies made at the same time called the logarithmic method for all years, showed a life of 20.5 years. The study shows something that I think is to indicate a trend somewhat like a rate of retirement trend would indicate.
4374 But I don't say that that indicates a life, such as you say.

I find in this volume, which is supposed to cover all of the 1924 life and salvage study, statements which use a logarithmic formula, and show greatly varying life in the last column, so-called life in years. That shows 8.4 years in 1923. That study shows for all years, and also gives the average for 1911 to 1923, inclusive, and an average, 1911 to 1923, excluding 1918 to 1921. The average for 1911 to 1923, inclusive, shows 20.9 years. For 1911 to 1923, excluding 1918 to 1921, it shows 12.6 years; but I would like to have it understood that while it shows just exactly what I have stated, it was

my understanding that it was merely used to establish a trend, that it does not mean that is the life of the property at all.

4375 They actually used a life of twelve years in 1924. I found for the offices in service in 1924 which continued in service to the date of my 1932 study, a life of 11.78 and I lengthened that to 13 years. I then made a composite in which I took into account the actual life of the offices that went out of service, subsequent to 1924.

My study showed 10 per cent salvage for 1924 for local manual. The figure used in the previous study was a composite of 20 per cent for all types of central office equip-

4376 ment. I have not a composity for all types in the present study but I can give you the individual salvage percentages; local manual was 10 per cent, dial 5 per cent, toll equipment 22 per cent, and other equipment of central offices, 50 per cent. I don't know how the composite of those individual figures would compare with the 20 per cent; it was unnecessary for the study. All I had to do was to weight together the several rates into a composite to make the comparison.

For central office equipment, this study used the same life and salvage throughout the period 1924 to 1927. I used the same percentage rate for the period 1925 to 1927 as for 1924; there is a slight difference in the composite rate, of course, because of the changing investment.

I cannot say whether when they made the rates in 1924, they foresaw the Merrimac office coming into service

4377 in 1926. The rate in 1926 as actually applied was no different than it was in 1924; but whether they anticipated anything of that kind in making the rate in 1924, I cannot say. I cannot say whether they anticipated the new dial installations in the period subsequent to 1924. They did not vary the rates from 1924 to 1927 with the coming into service of the additional dial installations. That is one of the reasons why I get a difference in my view from theirs, perhaps.

"Q. Now, for each of the years 1924 to 1927, in connection with your computation, you used a method in determining the life of the central office equipment which took into account the gross additions to the ultimate retirement of the original construction, is that correct?

"A. There has been some confusion on that subject here in this case, Mr. Goldstein. I want to say at the outset that the rate that we use is applied to the investment in property in existence at the time the expense is set up, but the rate itself is a uniform rate throughout the life of a unit of
4378 property, and that is affected by additions that occur throughout that over all life of the unit, which, in the case of existing offices, would include the effect of certain future additions.

"Q. When you use the word 'unit' you mean, in the case of central office equipment, the original construction plus all the additions to the ultimate retirement of the original construction?

"A. We consider the entire central office equipment installation in one location, and of one kind, a unit, in that respect.

"Q. You do not answer my question.

"A. Which includes all the additions throughout the experience of that unit of property, yes, sir.

"Q. Yes. So that the unit is made up of two things, the original construction, plus the estimated future additions?

"A. Yes.

"Q. All right.

"A. Of course, you say the initial construction. Now, you may be talking about an office that has been in service thirty years, and has only two more years to go; the rate in that case would be based on thirty years of actual additions, as recorded in the books of the company, and only two years estimate."

In the case of the Merrimac office, that was built in
4379 1926, and continues to 1984, I consider as a unit the original construction in 1926, plus all the additions to 1984. In my re-studies in 1932, for the period 1924 to 1927, as

to central office equipment, the method I used in my re-study is identical to the method used in connection with determining the life of the Kedzie office, shown on page 5 of Exhibit A-128, except for the offices which I have explained were retired, having been analyzed as to their actual experience. As to those offices which were in service as of 1923, and also in service as of the date of the 1932 study, I used in my calculations the method of estimating life which was *identical* to that shown on page 5 of A 128, as to the Kedzie office. Not only the method, but the rates.

The principal reason why I arrived at a different result than Mr. Hale for station apparatus, is the difference in our view as to estimated life. There is some difference in the salvage, but not serious, perhaps. My estimated life for the year 1923, in the 1932 study, was seven years. My study is in Exhibit A 128. I arrived at seven years according to the method that I have already described.

4381 I stopped in my calculation subsequent to the year 1923, as to certain items; in the case of underground cable I stopped at 1924; and in the case of station apparatus I stopped in 1926 and 1927. My reason for stopping there was that the rates that I estimated for that subsequent period in both cases were not sufficiently different for me to substitute my opinion for that of my predecessor.

In connection with the difference between my study and Mr. Hale's in reference to exchange underground cable in 1923, there are several things here that would probably have to be analyzed to some extent, but let us take subsidiary cable, for example. My predecessors estimated that they would obtain 20 per cent net salvage from subsidiary cable. I know very well that they won't obtain any black salvage, that is, it will be in the red, because the removal cost will exceed it. We have used zero because we are awaiting a little further information on the subject before we set a red net salvage, but they used 20 per cent salvage and that is impossible

4382 to obtain for subsidiary cable. That subsidiary cable has a life of fifteen years.

What I have just stated as my conclusion regarding

salvage is not based upon my opinion as to what is going to happen during that period or at the end of that period. That is what is going to happen when the cable in service in that period comes out. It may come out thirty or forty years from then.

"Q. I notice, according to your calculations on pole lines, Mr. Hale's studies differed in results from this, in percentages, ranging from 28 per cent to 38 per cent per year, and in each case 1923 to 1926—1923, 1924, and 1925, Mr. Hale's computations resulting in an excess charge of 28 to 38 per cent, and in the case of booths, an excess charge for the years 1923, 1924 and 1925 of about 43 to 44 per cent. What is the principal reason for the difference in your calculation from Mr. Hale's?

"A. All those percentages you have enumerated there are simply a difference in the life estimates between Mr. Hale and myself.

4383" "Q. That is, they are not differences in the life estimates, but they are differences in the dollars in the percentage of total annual expenses, due to your difference in the estimated life?

"A. Yes, that is right, applied to a relatively small investment."

The principal difference in this whole matter of exchange pole lines is that Mr. Hale estimated a life of thirteen years in 1923, and fourteen years in all subsequent years after 1923. I am estimating a life of 20 years for untreated poles, and 27 years for treated poles, and on the basis of the relative amounts of those two kinds of poles, I got 20 years in 1923, 21 years average life in 1924, 1925 and 1926, and 22 years in 1927. Now that is the whole answer to it.

The document identified as Defendants' Exhibit D-140 is a statement which I furnished defendants subsequent to my testimony at the hearing, and is entitled, "Illinois Bell Telephone

Company, Average Realized Life Study, Central Office Equipment, Merrimac Central Office, Schedule No. 1, Common Battery Equipment". It shows the 1932 re-study of the estimated additions and retirements for the Merrimac cen-
4384 tral office equipment which was combined in D-15. It shows the change that I have made as a result of re-studying the conditions since the 1929 study. This was completed about February or March, as near as I can remember it, of this year.

Exhibit D-140 differs from Exhibit D-15 in that we have deferred the estimated additions to a later year. The reason for deferment is the fact that, owing to the depression and the unusual conditions, we estimate our growth will
4385 not come as soon as we estimated it. It may come faster.

I made no change as to the ultimate retirement of the office in 1944. The conditions which would lead to deferring the additions would not lead to deferment of the ultimate retirement of the office. We still estimate the ultimate retirement for 1944 and have merely deferred additions.

5750 And thereupon the plaintiff, to further maintain the issues in its behalf, by its solicitors, introduced in rebuttal the following evidence, to-wit:

W. F. SLOAN, recalled as a witness on behalf of the plaintiff in rebuttal, having been previously duly sworn, further testified as follows:

Direct Examination by Mr. Thompson.

June 29, 1932.

I am familiar with Defendants' Exhibit X-6, in which there appear tables for the years 1921, 1922 and the first six months of 1923, attempting to compare my appraisal method with what is termed "Company experience", and I heard Mr. Cummings' testimony relating to it.

There were 3,056½ poles of various kinds included in the

gross additions in Account 241, Exchange Pole Lines, 5751 for this two and a half year period, as set out in Mr. Cummings' exhibit. Of these poles, 365½ were under specific estimates and 2,691 under routine. Of the specific, 66½ were Commonwealth Edison poles.

I have ascertained whether the poles included in this two and a half year period of Mr. Cummings' exhibit were in part tank-treated poles. I obtained this information from the Western Electric Company invoices. In 1921, 23 per cent were tank-treated; in 1922, 85 per cent; and for the first 5752 six months of 1923, 80 per cent. In poles of the same type, that is, an eastern cedar pole or a western cedar, treated and untreated, the difference is about $3 to $5. The difference between a western tank-treated pole and an eastern cedar untreated pole varies from about $1.10 to $3.25. In each of the cases to which I have referred, the tank-treated pole is the higher priced pole.

In Exhibits 1 and 50, introduced at the former trial of this case, I used, for the purpose of arriving at my trend or conversion factor on poles, the price of eastern cedar untreated poles. The price, at the level of June 30, 1923, for an eastern cedar untreated 35B pole was $18.95, so when Mr. Cummings used this figure of $18.95, and corresponding prices for other sizes of poles, what he did was to convert the poles which had been put in during this two and a half year period, including all of the expensive tank-treated poles, to the level 5753 of the less-expensive untreated poles as of June 30, 1923.

I have also examined Mr. Cummings' work papers to ascertain whether he made any allowance whatever in his figures as of June 30, 1923, for the waste which is incurred in cutting and splicing the cable, and I refer to both Accounts 242 and 245, Exchange Aerial Cable and Exchange Underground Cable. He did not make such an allowance. He took off from the Company's estimate ledgers for the two and a half year period, 1921 to June 30, 1923, the dollars expended by the Company for all of the cable added to plant during these respective periods. These dollars contained the total cost of the cable, less, in some cases, a small credit for salvage.

The footage which he took off was the net footage of the cable. Mr. Cummings has applied to this net footage the June 30, 1923, price of cable, as taken from our Exhibits Nos. 5754 1 and 50, and, in so doing, he is comparing the June 30, 1923, cost of the net footage of cable against the actual cost of the gross footage.

What he did was to take off the dollar prices for the cable appearing on the books. Those dollars were the total cost of the cable. When he came to put the footage in and apply his prices at the later level of prices, he used the net footage; the records from which he took his information show the net footage.

To obtain his prices on cable as of June 30, 1923, Mr. Cummings has taken the actual gross cost of the various quantities of cable erected in each of the three years, and has repriced these net quantities as of June 30, 1923. The prices which he has used as of June 30, 1923, represent the prices of the particular types of cable which I had used in arriving at our conversion factor. As a matter of fact, there were several types of cable erected in each of the three years, most of which were more expensive than the type which we had selected for our index conversion factor. The effect of 5755 this procedure is, of course, to convert the more expensive types to the particular type which we had used. For 22 gauge cable, I had selected Type AXA; and for the 19 gauge cable, I had selected Type AXB. Of course Mr. Cummings has converted everything to these two types.

I also found a mathematical error made by Mr. Cummings in Account 245, Exchange Underground Cable, for the six-month period ending June 30, 1923, in his material cost trend. The nature of this mistake was that if the mistake had been corrected Mr. Cummings' results would have given him a higher answer on his theory than it should have; that is, it was against him, or in favor of the Company. That mistake, as well as certain other errors, has been corrected in our exhibits, to which I will refer later.

Mr. Cummings has not carried out on sheet 1 of Exhibit

X-6 the total result of his computations for the two and
5756 a half year period. I have made this calculation. On
Exhibit X-6 Mr. Cummings has derived certain figures for each of the two and a half years, which he has called "Company experience", and given the relation of those figures to the figures which we had shown in Exhibit 1 for each of the years; but has not given it for the total two and a half years. His results are within 96.28 per cent of ours for the two and a half year period on Exhibit X-6.

I have prepared a statement (identified as Plaintiff's Exhibit A-243) which corrects sheet 1 of Cummings' Exhibit X-6 for his errors in material prices only, but includes the mathematical error that I have just referred to. This exhibit shows
that if you just correct material errors only in Mr. Cum-
5757 mings' Exhibit X-6, the correct answer is 97.28; that is,
his corrected theory would give a result 97.28 per cent of our figure.

Mr. Cummings, in arriving at the labor cost which he uses in compiling the so-called "Company experience" used by him in Exhibit X-6, has used the productive hourly rate for the first six months of 1923, adjusted by relatively small factors to bring it to what he says would be the level of June 30, 1923. Of course he has not done that, but that is his assumption in making that correction.

I have made a study of the plant forces of the Illinois Bell Telephone Company in its Chicago area for the period 1911 to 1931, and have set forth the results of this study in an instrument which has been marked as Exhibit A-244. I prepared this exhibit from an analysis of the Company's records. I determined the average number of plant employees of the Company for the Chicago area, for each of the years 1911 to
1931, inclusive. I have tabulated the results of these
5758 investigations as shown on this sheet, and I have also
plotted the results in graphic form as shown in the curve on the Exhibit A-244. It will be noted that from 1911 to 1917 the average number of employees varied from 1,069 up to 1,452. It will also be noted that during the years 1918, 1919, 1920 and 1921, which were the years during and immediately

following the war and covering the period of the 1921 depression, the plant forces of the Company were nearly cut in half. Beginning in 1922, the plant forces were suddenly expanded, and in the first half of 1923 were in excess of what they had been before the war. That is rather graphically shown on the curve in A-244. Mr. Cummings arrives at his productive hourly labor rate by dividing the total dollars of money paid for wages by the number of hours worked.

These construction forces went down, as shown graphically on Exhibit A-244, until they reached their low level in 1918. Then they started up with the period of construction until, in the first six months of 1923, the number of employees reached the peak that the Company had had in its construction forces since 1911. There was a very sudden expansion in their forces in 1922 and the first half of 1923.

I did not use this productive hourly labor rate in my appraisals at all. I used a typical gang, representing what I believed to be that which would be used during construction, and then adjusted the wages of this typical gang in accordance with the wages paid by the Company in each of the years.

The effect of the employment of a large number of new men on the productive hourly labor rate is perfectly obvious. When you take on a large number of new men, they are taken on at a lower wage level than the older and more experienced men, and a sudden increase in the number of employees results in a substantial reduction in the productive hourly labor rate. If you take the productive hourly labor rate for a given period of time when the forces have been suddenly expanded, you get a very low productive hourly labor rate.

The productive hourly labor rate for the first six months of 1923 of the Illinois Bell Telephone Company was the lowest in this entire two and a half year period. Mr. Cummings testified, and it is a fact, that it is not only the lowest for the two and a half year period, but it is the lowest since our entrance into the war.

Telephone construction work in general is done by groups

of men, which are known as construction gangs. These
5761 gangs are usually composed of foremen, linemen, ground men, splicers, helpers, and so forth. When any company contemplates an extensive expansion in its construction program, the construction forces are immediately expanded by the employment of large numbers of new people. The new men in general are taken on at the minimum wage, and after a short period their wages are increased. Eventually the helpers are advanced to the status of splicers, and the ground men are advanced to the status of linemen. Because of this situation, very rapid changes may take place in the productive hourly rate, with a relatively minor change in the basic wage rate. The converse of this situation will, of course, arise when construction forces are contracted. Now, that is very clearly illustrated by what happened between the year 1929 and the year 1931. After 1929 the plant forces were rapidly diminished, and there was still a slight wage increase, however, between 1929 and 1931; wages actually increased about 4 per cent, and yet the productive hourly rate increased from 13 per cent to 20 per cent for the different accounts during that period, just because of the fact that the lower priced men had been dismissed.

I have prepared a table in exhibit form which illustrates this situation.

5762 (Which table was identified as Plaintiff's Exhibit A-245.)

A very striking illustration of this situation occurred in 1923. In 1922 and 1923 the construction forces were rapidly expanding, and the average number employed in the year 1923 was nearly double those employed in 1920. Now, to take one account, the Pole Line Account, the productive hourly rate for pole line labor in the first six months of 1923 was slightly under 91 cents per hour. As a matter of fact, it was 90.78 cents per hour. And in the second half of the same year that productive hourly rate had increased to 98 cents per hour, an increase of over 8 cents per hour, although the wage rate had increased less than 3 per cent. Going back to Mr. Cummings' Exhibit X-6, he has used that extreme low point

which occurred in the first six months of 1923, except that he has modified it by one one hundredths of one per cent;
5763 that is, instead of using 90.78, which was the exact figure, he has used 90.79. He alleged that the modification was merely to get this productive hourly labor rate for the first half of 1923 to the level of June 30, 1923. As a matter of fact, the correction of a wage rate will never correct a productive hourly rate, and it cannot do it in that way. Now, if he feels that he should use the productive hourly rate to convert our figures, or to test our figures, he should certainly have taken a point somewhere between the 91 cents that occurred in the first half of the year and 98 cents in the second half, with any modification of wages that he might have wanted to apply to that. That would have certainly been a more nearly correct figure than the one that he did use.

5764 There is a case where Mr. Cummings found that about 30 poles had been erected in the first half of 1923 on specific estimates. Now, there is another illustration of what happened to the productive hourly rate. It happened on those 31 poles that the productive hourly rate was slightly over 84 cents an hour in the first half of the year. As a matter of fact, there were about the same number of poles erected in the second six months of 1923, where that productive hourly rate had increased to slightly over $1.03. That is, there was an increase of over 22 per cent there, with a wage increase of only about 3 per cent. It should be pointed out that the productive hourly rate which was reached in the first six months of 1923 is the lowest point which the company has experienced since our entrance in the war, and that low point has never since been experienced.

5765 I have prepared a simple little graph which shows the use of this productive hourly labor rate and how it relates to productive hourly labor rates of other periods of time.

(Which graph was marked for identification Plaintiff's Exhibit A-246.)

There are two graphs on that exhibit. The one on the left-hand side of the sheet is the one that Mr. Cummings used

in Exhibit X-6. I will discuss that first. The first horizontal line which is up at the upper left hand side indicates that the average productive hourly rate for 1924 was almost $1.08 an hour. The second horizontal line part way down the graph shows that the average productive hourly rate in 1922 was somewhat over 98 cents. And the very bottom one is the 90.79 cents that Mr. Cummings has used in converting our entire pole line account down to that temporary rate that was reached in the first six months of 1923. The last horizontal line shows what happened to the productive hourly rate
5766 in the last six months of the year 1923.

Mr. Cummings used this productive hourly labor rate, which, on the left hand of this chart, is identified with an arrow, for the purpose of converting the labor costs in these three accounts which he analyzed for the entire two and a half year period, which was at a little above 90 cents, and which was lower than it had been during that period at any time.

The right hand side of the chart (A-246) simply illustrates what he has done in Exhibit X-9. As I pointed out before, he found that some 30 poles had been erected on specific estimates in the first six months of 1923, so he has accentuated the error that he made in his first calculation in X-6 by pulling everything down to about 84 cents an hour. That was done by the study which he explained in getting the productive hourly labor rate from specific estimates as counter-distinguished from using it on specific and routine combined.
5767 The next thing this graph shows is how violently or how quickly a productive hourly labor rate can change with hardly any change in the wage rate. If we look at the last horizontal line in this right-hand graph, we will see that jumped up to over $1.03 there and yet there was only 3 per cent change in the basic wage rate.

This chart, Exhibit A-246, deals with exchange pole line labor. The same comparisons exist in the other accounts used by Mr. Cummings but in varying degrees.

I think the application of productive hourly labor rates for the first six months of 1923 with the minor adjustments made in them by Mr. Cummings, when used to obtain the

labor costs for the gross additions for the period 1921, 1922 and the first six months of 1923, is obviously incorrect from an inspection of those graphs. In my opinion, from a practical standpoint, it would have been absolutely impossible to have reproduced the Chicago property at the productive hourly rates which were experienced in this relatively short period of six months.

Plaintiff's Exhibit A 247, in two sheets, the first of which 5768 I have prepared an instrument, identified as shows a comparison of my index of labor costs for an aerial construction gang, based on the trends which I actually used in Exhibits A 2 to A 10, and an index based on the productive hourly labor rates for Class "A" labor, and the second sheet of which shows this comparison graphically.

"A" labor is the predominant type of labor that is used in erecting poles and aerial cable. It is apt to be mixed, however, with other types of labor. For instance, in erecting poles you will frequently find that, well, say 20 per cent of "G" labor, that is a different type of labor from labor used in connection with pole line work; but "A" labor constitutes about 80 per cent of pole line labor and a lower percentage of aerial cable labor. The other aerial cable labor would be "D" labor, pertaining to splicing. But from certain of 5769 the Company's records it was possible to get the rates for the specific kinds of labor, without making a very long, detailed analysis of labor costs, so I have taken this "A" labor to illustrate what I mean.

Now, discussing the table first (A-247), I have given our index that we used on labor from the period June 30, 1923, to the end of 1931. You will notice that the index starts at 100 per cent, in 1923, goes to 102.7 by the end of the year, and goes up to 115.8 per cent at the end of 1931. Now, if you take this Class "A" labor on a productive hourly rate, as Mr. Cummings has implied might be proper from his exhibits, you can see what has happened and what sort of a result you get if you use that as a measure of your conversion factor.

On sheet 1, the column based on trends used in my Exhibits

A-2 to A-10 illustrates how my gang set-up, the labor cost based on that method has increased from June 30, 1923, to December 31, 1931, in that "A" labor class. If I had used the productive hourly labor rate that Mr. Cummings used in his Exhibit X-6, the increase, instead of being 15 per cent, would have been 66 per cent.

5770 Sheet 2 is the same thing applied graphically. Now, the rapid rise in the years 1930 and 1931, and even 1929, is due to the fact that the construction program was nearing completion and that the lower-priced men had been dropped out and the higher-priced men retained.

Where a productive hourly labor rate is so distorted as the Company's experience was in the first six months of 1923, I have never used such a rate in arriving at labor costs in an appraisal; not for any such period as six months, and not under conditions where such a sudden and violent expansion of forces had taken place. I think the graphs I have introduced prove very conclusively that it was a temporary condition; I know it was.

I have never used less than a year for a productive
5771 hourly labor rate, and in a job of the magnitude of this Chicago telephone investigation, I would hesitate to even use a year, unless it were modified by some very close study of the type of men and the average wage rates paid.

I prepared Plaintiff's Exhibit A-248, which shows the average productive hourly labor rate for Class "A" labor for aerial construction from 1921 to 1931. That exhibit merely shows by blocks of six months the average productive hourly labor rate in this account. The other graph that I put in simply showed the trend of the index. Now, this is plotted to show the cents per hour that were paid for Class "A" labor. You will notice that the first half of 1923, which Mr. Cummings used, is the extreme low point and was a temporary situation that only lasted six months.

I have made a calculation, which is set up in exhibit form and identified as Plaintiff's Exhibit A-249, as to the effect on

sheet 1 of Cummings' Exhibit X-6 of a correction in his
5772 labor factor by merely substituting for his productive hourly labor rate the average productive hourly labor rate for the entire year 1923, adjusted to the June 30, 1923 level for the difference in weight trends. I have combined this correction with the correction for his errors in material costs so as to re-state sheet 1 of Cummings' Exhibit X-6 for these two factors. It shows that if the combined two and a half year period is revised, the result would be different; 97.86 per cent of the result which we reached in our Exhibit 1. That is, 2.14 per cent difference.

I do not approve of the method of using this productive hourly labor rate for so short a period as a year in this connection. I do not think it is proper to use it.

5773 The errors which I have testified to on sheet 1 of Cummings' Exhibit X-6, also reflect themselves in each of the other 16 sheets of his exhibit. Sheet 1 is merely a summary sheet based on the other 16 sheets.

If I had used the average productive hourly labor rate in my appraisals (Exhibits A-2 to A-10, both inclusive) for the period 1923 to 1931, instead of a typical gang, the result would have been a substantial increase in the labor costs used in my appraisals. I have not made any calculations to determine just how much that increase would have been, but I think that if you will refer back to Exhibit A-245 you can determine approximately what that would have been in two years. If you look at the first sheet of Exhibit A-245, you will see that we increased our pole line work from 1923 to 1929 by 12.47 per cent, whereas, if we had used a productive hourly rate factor we would have increased it by 35.2 per cent. That is the basis on which I say the increase would be substantial, even though I have not attempted to evaluate it in dollars.

5774 If you will look at one other account there, 245, underground cable, we increased 36.22 per cent, but the productive hourly rate method would have given 47.26 per cent. It is those things that lead me to believe that our results in all the subsequent exhibits would have been much greater than they actually have been set out.

Exhibits X-8 and X-9, prepared by Mr. Cummings, constitute an attempt to show a comparison of labor hour performance between specific and routine estimates of the Illinois Bell Telephone Company in the following accounts: Exchange Pole Lines, Account 241; Exchange Aerial Cable, Account 242; Exchange Underground Cable, Account 245. When Mr. Cummings has obtained his labor-hour performance on specific estimates, he applies such performance on the specific estimates to all work done in these three accounts for the two and a half year period, both on specific and routine estimates, except Building Cable 35-C, which is a sub-account of 245.

The data contained in the various sheets of Exhibit X-8 is made the basis of the comparisons appearing in Exhibit
5775 X-9, so that Exhibit X-9 depends for its validity upon the correctness of Exhibit X-8.

From my examination of Mr. Cummings' work papers, I have ascertained that he made an error even on his own theory in calculating the hours of labor performance in exchange pole lines. It has already been discussed. He included 75½ poles under specific estimates without including any labor hours associated therewith, but he also included 70 hours of labor not related to any poles. The result was a substantial error. The result was that Mr. Cummings showed in his exhibit that poles would have been installed during this period on specific estimates with less labor hours than the Company actually experienced on specific estimates for the period.

5776 In connection with the 290 poles included in the specific estimates used by Mr. Cummings (excluding now the 75½ poles where there were no labor hours associated with them at all), I made a study of construction records to determine for how many of the poles set on specific estimates it was necessary to cut through pavement. I also made a similar study to determine how many of the poles that were set on routine estimates were cut through pavements. Only 4 poles out of the 290 that Mr. Cummings used after he made his correction were set through pavement; those were poles that were set on specific estimates. We could not get the records

of all of the poles set on routine estimates, but we got the records of 2,050 out of a total of about 2,700; I guess the exact number is 2,691. Out of that 2,050 we found
5777 that 13.4 per cent were set through pavement. The labor cost of setting poles is increased about 50 per cent where it is necessary to cut through paving. That is the labor cost only; I am not talking about the total pole cost.

If you take the corrected figures for this account given by Mr. Cummings orally, and make a proper additional allowance for average conditions under which poles would be set in the pavement, it would show that the experience of the Company shows that it costs just as much to set poles under specific estimates as it does under routine estimates.

I am familiar with sheets 13, 14 and 15 of Exhibit X-8, in which Mr. Cummings has attempted to arrive at the trial labor hours for the installation of underground cable on combined specific and routine estimates. I am also familiar with the work papers which Mr. Cummings used in this con-
5778 nection. Mr. Cummings applied to the quantities of cable, both main and subsidiary, shown in the exhibit, trial labor hours applicable only to main cable.

The records of the Illinois Bell Telephone Company do not disclose how much of the cable installed in the two and a half year period is main and how much is subsidiary. There was a substantial amount of subsidiary cable installed in this two and a half year period. There are two or three reasons for knowing that. First, because the Company is constantly installing that kind of cable. I do have the records of the entire cable plant of the Company, which show that about 15 per cent of all of the cable is subsidiary cable. There is also an indication to be found in the number of pairs of cables: in the underground cable most of the cable that is less than 200 pairs in size is subsidiary cable.

For his trial labor hours for exchange underground
5779 cables I understand that Mr. Cummings used an exhibit that had been put in in the New Jersey case of the New York Telephone Company, which had been designated as Exhibit P-23 in that case. Trial labor hours were shown in

this exhibit in the New Jersey case for both main and subsidiary cable of the various numbers of pairs and various gauges. There is a difference in this exhibit in the New Jersey case between the trial labor hours for the same gauge and number of pairs of cable as between main and subsidiary cable; it showed that the trial hours for subsidiary cable were approximately twice, in some cases more than twice as much as trial units for main cable.

As a result of this process, which I have described and which Mr. Cummings has described on the stand, he got a total computed hours of 598,100 in this account for the two and a half year period, against actual hours of 708,743, which gave him a correction factor of 118.5 per cent, which he
5780 then used to correct his trial labor hours. After having corrected his trial labor units by this 118.5 per cent, he then ascertained that the hours of labor performance under the specific estimates were only 84 per cent of the labor hours shown on the specific and routine estimates combined, and then he applied that 84 per cent to all the work done on both specific and routine estimates.

Mr. Cummings has stated that this correction factor of 118.5 per cent took into consideration the fact that a substantial portion of the underground cable installed during this period was subsidiary cable, where the labor hours required for installation were about twice those required for the installation of main cable. Here is the situation: Mr. Cummings has applied the trial labor units for main cable only to a composite group of cable consisting of both main and subsidiary. That is, he has just taken these units that applied to one kind of cable only and applied it to a composite group containing both, and, of course, he found that a correction factor was necessary. So he applied this correction fac-
5781 tor against all of the sizes indiscriminately, and it is, of course, perfectly obvious that the correction factor should have been applied against the sizes that belonged in the subsidiary group. This means that his main cable units are very badly distorted. So he then takes these distorted

main cable units which he has arrived at in this way and applies these distorted units to the quantities of cable that he has arrived at under these specific estimates. That would convey the impression that the specific estimate jobs would require less time than they actually do; it gives a very distorted answer. The reason it is distorted is because the proportion of main and subsidiary cable in specific estimates is entirely different from the proportions under routine or under specific, or under routine and specific combined. You cannot use the units in that way without getting a distorted result.

5782 The trial labor hours which are shown on this Exhibit P-23 in the New Jersey case for the main cable units are just about half of the subsidiary.

On sheets 22 to 29, inclusive, of Exhibit X-8, which deal with specific and routine estimates on house or building cable only, Account 245, Exchange Underground Cable, Mr. Cummings found that the labor hour performance on specific estimates was higher than the labor hour performance on the combined routine and specific estimates. There he changes his method. In all of the other accounts he found the reverse situation; he found that the specific took somewhat less hours than the routine, but here he found the reverse, so he changes his method and uses the labor hour performance on combined routine and specific. The result is that Mr. Cummings here

5783 follows the method which we used in all of our reports, but, of course, in this particular instance he gets a lower dollar result for labor than he would have if he had used the method which he had followed in all of the other accounts.

5784 Account 35-C is building cable. I have made a very careful study of what has happened to the building cable. Now, building cable means the large cables that serve all these big office buildings, and, of course, smaller buildings too, in Chicago. Now, as a matter of fact, most of that cable was erected when the building itself was being erected; that is, as the building went up. Just like this new Marshall Field Building over here, they are putting in that cable as the building itself goes up. If we tried to reproduce that same cable

today, after the building is completed and all the marble finish is put in and the interior decoration is completed, and after all the other utilities have also got their cables in the same shaft, the cost would be increased tremendously. I visited 10 or 12 buildings in the loop here, just to get some idea of what that situation was. A very good example is across the street here, in the Continental Bank Building; the cable shafts are just filled with cables and terminal boxes of all sorts; if you tried to reproduce that cable today it would cost you tremendously more than it did when the building was erected.

5785 In Exhibits A-2 to A-10, inclusive, which show the cost to reproduce this property for the years 1923 to 1931, no element of cost is included on account of that tremendous increase of labor that would be incurred if the cable were to be installed under the conditions existing today or for a period of four or five years back. That is neither included in that account nor in any other account.

Mr. Cummings has repeatedly stated that routine work represents what he calls piecemeal construction. He has been at some pains to emphasize the fact that piecemeal and routine are the same thing, and he claims that if the property were to be reproduced, the cost of routine work could be reduced to that of work done on specific estimates. Now, the way I look at it, the real reason that routine work
5786 costs more than specific is because, in many cases, the nature of the work itself is different. Much of the aerial cable and much of the subsidiary cable is in short lengths, and it is this class of plant that is erected under routine estimate. A piece of aerial cable may extend for only one or two blocks and a piece of subsidiary cable may be only 50 or 100 feet in length. Now, much of the routine cable splicing work is done on live and operating cables, the plant is an operating plant, and, as it is built, there is some extra cost, due to the fact that cable is spliced on live and operating cable.

"Q. That would be true not only under the method you have adopted in your appraisals, but that would also be true

under any reproductive condition where you were cutting plant in service as you went along?

"A. It would seem to me to be utterly foolish to think of reproducing this property without cutting a large part of it into service as quickly as you could."

If you do that, then you have got to do some of this cable splicing in these various shafts in the way it is now done
5787 by the Company under routine estimates.

If the property were to be reproduced today, it would be uneconomical to carry the entire project to completion before putting any part of it into operation. The volume of construction work done in every year of the Company's history has been very large in amount. Prior to 1923, I think I testified that the average yearly gross construction was between seven and eight million dollars. Since 1923, up to 1930, the average yearly gross construction has been about twenty million dollars.

From 1923 down to 1930, the Illinois Bell Telephone Company has been adding, in its Chicago area, gross construction at the average rate of twenty million dollars a year. It
5788 was fairly large in 1931, too. Even with this large volume, it has been necessary to do a part of the work under routine estimates. I certainly think it would be necessary to do that if the property were to be rebuilt in its entirety today. I do not think the property could be reproduced if all labor were reduced to the level of that experienced on specific estimate work only.

Mr. Cummings offered this fact as an explanation why building cable was a special job; that they were individual jobs.

I have prepared an exhibit (identified as Plaintiff's Exhibit A-250) which shows the apportionment of book costs to
5789 specific and routine construction. The left-hand column of that exhibit shows the book cost as of December 31, 1930, by accounts. It gives the dollars for each account, and you will notice at the bottom there that the total is about $169,000,000, the total book cost on December 31, 1930. Now,

we have gone back on each account and added up gross additions in reverse order, until we got an amount equal to this book cost.

I wanted to find the work that had been done under specific and under routine estimates in these various accounts. In order to do that, I went back and added the gross additions up until the amount of the gross additions in each account equalled approximately the present book cost of that account.

In adding them up in reverse order, we kept the amount
5790 that was done under specific and the amount done under routine separate, so that the results are tabulated in the last two columns of this exhibit.

It (A-250) shows that of $169,000,000 odd nearly $104,000,000 was under specific and about $66,000,000 was under routine. But that does not give quite the true picture, because if you look up at Account 222, "Other Equipment of Central Office", and look at Account 231, "Station Apparatus", those combined represent about $18,000,000 or $19,000,000. The total dollars of those two accounts are material only; they have no labor connected with them at all. So if you consider that on the specific side, you get the figures shown at the bottom of the page there of about $121,000,000 as being a true picture of the specific work and about $48,500,000 as routine.

"Other Equipment of Central Office" is mostly furniture,
lockers, and things of that sort. "Station Apparatus" is
5791 telephone instruments. So, when you get a portion of them under specific and routine estimates, you are just talking about materials anyway, because whether you erect your plant under specific or routine does not matter; you buy that same quantity under the same price anyway. That is why I have thrown them over under the specific side at the bottom of the page. You will notice that is $121,000,000 of specific and $48,500,000 is routine, or a percentage there of 28.57 per cent. Now, if you consider that about 50 per cent of that $48,000,000 there is labor, that is the only part that is affected by this routine thing, because the other part is material, and that reduces it; out of the total construction about 14 per cent would be what you would call routine labor.

That is the amount that is involved in this question of routine or specific work.

I do not think there is any doubt at all that under reproductive conditions there would be a substantial element of work that would necessarily, by its very nature, be required to be done under conditions approximating those of the present routine estimates.

5792 I have prepared an exhibit (which was identified as Plaintiff's Exhibit A-251) which corrects Mr. Cummings' Exhibit X-9, sheet 1, for errors in material. I testified to errors in Mr. Cummings' method in arriving at Company experience under specific estimates and also corrections for the use of the average productive hourly labor rates for the first six months of 1923 by using the average productive hourly labor rate for the entire year, adjusted to the June 30, 1923 level. This exhibit shows the per cent of the so-called "Company experience" to the appraisal method pursuant to Cummings' exhibits as corrected.

In the next to the last column there is "J. G. Wray Exhibit X-9", and then in another column, "J. G. Wray Exhibit X-9-A". That is on account of the correction exhibit

5793 which was put into the record yesterday. There was a correction put into the record yesterday by Mr. Wray, and we just put in three figures there on the original which showed he got a result 91.79 per cent of our answer, and when he corrects it, he gets 92.36 per cent. When we correct his work for the factors indicated only, we get 96.78 per cent; a variation of a trifle over 3 per cent. That is, however, using his theory entirely. I do not think his theory is right, but if you take his theory and correct it, that is what the answer would be. So, in this exhibit by merely correcting what I believe to be errors even in Mr. Cummings' own methods, we show that when corrected the result is within approximately 3 per cent of my appraisal.

I am familiar with Defendants' Exhibit X-13, which attempts to make a comparison between Gregory's state-

5794 ment "B", appearing in the last column on page 1, and the materials in Account 221, Central Office Equipment;

Account 231, Station Apparatus; and Account 234, P. B. X., as found in my appraisals for the several years 1923 to 1931. There are not included in these three accounts, or any of them, for the years 1923 to 1927, as shown in my appraisal, any receivers, transmitters or induction coils. The Company did not own them up to that point; they were owned by the American Telephone and Telegraph Company and leased to the Illinois Bell. For the period 1928 to 1931 Mr. Cummings has included all receivers, transmitters and induction coils purchased by the Illinois Bell Telephone Company for its
5795 Chicago area after the original purchase which has already been mentioned. I do not know accurately how much these amount to; it is about $2,500,000.

There are not included in these three accounts in my appraisal for the years 1923 to 1931 any loading coils or cable terminals. It is hard to get the exact amount of loading coils and cable terminals added to the Chicago area during this period of time, but from the investigations we have made there is about 1,800,000 loading coils and about 1,500,000 of cable terminals, totaling about 3,300,000.

Class "C" material is material which is turned in to the distributing houses of the Western Electric Company, reconditioned and reissued to the same telephone company. There is quite a lot of Class "C" material included in these three accounts in my appraisal, shown on sheet 1 of this
5796 exhibit, but I cannot say how much it amounts to. There is some in the appraisal, quite a substantial amount.

During the period involved in my appraisals, there has been no delay in materials delivered directly to the job after they were purchased from the Western Electric Company. The average turn-over on materials from the warehouse to the job is about three weeks.

In converting the gross additions, I used average prices paid the Western Electric Company throughout the year. My method of dealing with this price situation which Mr. Cummings criticized has not had any substantial effect upon the dollars shown in my appraisal year by year.

Since my appraisal exhibits were submitted to the
5797 defendants in this case, representatives of the firm of J. G. Wray and Company have inspected the prices which I used and the price lists of the Western Electric Company:

I am familiar with sheet 2 of this exhibit, which purports to show a comparison between my appraisal and what is termed Western Electric Company average, both with respect to manual and dial equipment as to both installation and equipment specification costs. There has been one installation of No. 1 manual switchboards in the Chicago area during the period 1923 to 1931. There have been some fairly large additions of manual switchboards to the existing plant during that period. There has been no installation of the new No. 11
manual switchboards in the Chicago area; they are not
5798 used in Chicago. The No. 1 manual switchboard has been standard for approximately twenty years prior to 1923. The new No. 11 manual Western Electric switchboard first came into general use about the latter part of 1923 or 1924.

During the years 1924, 1925, 1926 and 1927, there was a substantial amount of installation labor which had theretofore
been done in the field transferred to the factory; there
5799 has been a very decided change in their installation methods. The result was that the amount of installation labor on both manual and dial equipment, in proportion to the material, was decreasing rapidly.

In general, I treated the labor and material costs with reference to both manual and dial installations just the way it was installed. That is, my figures were based on performing the installing operations in the field and including them as a labor factor to the same extent with respect to a given central office installation throughout the entire period. Take the case of this State central office, this large dial office over here. That was one of the earlier types of dial equipment, and a large proportion of that labor was installed in the field; that is, after the material had been delivered. Now, in one of

the later types, like the Franklin-Randolph, the design
5800 of equipment had changed, and it was possible to do a lot of that installation work—or work that was formerly done in the field, it could have been done in the factory. Of course, the thing balances back and forth; that is, if you take it out of the field work, then it appears as a cost on the material side.

If an office was installed in 1923, 1924, or 1925, whatever the case might be, I took all material prices as determined for that year from the Western Electric Company and related them to the things which they charged as material at the time that installation was made. Then I arrived at the labor factor for the work of installation. In my later appraisals, I did not increase the price of the material because of a change in policy in the Western Electric Company in transfer-
5801 ring work from field to factory. Nothing like that was done at all. It was just carried forward as it was originally erected.

Our answer is correct, because we have carried the material forward as it was and the labor forward as it was. If you take your labor out of the field, you will, of course, have
5802 to put something over on the material side. We have done neither one of those. We have just carried that forward as it was, but, of course, the factors that you get taking our study based that way you cannot compare with another set of index factors where that transfer of labor to material has been shown as part of the index.

Reference has been made to the fact that I included Commonwealth Edison poles in the item of incidentals which was in the labor part of the material and labor proportions in the appraisal prior to June 30, 1923. That is true. In the exchange pole line account from 1911 to June 30, 1923, the materials increased at a very much greater rate than labor. The inclusion of these Commonwealth Edison poles in incidentals in the appraisal as of June 30, 1923, makes our appraisal for the pole line account slightly too low. In Exhibits A-2 to A-10, inclusive, these poles have been treated separately.

5803 If you refer to the first two columns in Exhibit X-10, you will notice that from the period 1918 to June 30, 1923, over 1917, and that beginning with July, 1923, there is a very substantial drop; that is, the material drops and the labor percentage increases during that period. This very wide difference shown on this exhibit is due largely to the factor I have just mentioned, that is, the inclusion of the Commonwealth Edison poles on the incidental side of the construction account for labor. The Illinois Bell Telephone Company began to acquire an interest in Commonwealth Edison poles in a substantial amount, about 1918. In fact, it was in 1918, although prior to that time there had been a few small acquisitions of half-interest in Commonwealth Edison poles. That increase in labor costs, as shown on these 5804 sheets to which I have just called attention, is due largely, for the period 1918 to 1923, to the inclusion of the Company's interest in Commonwealth Edison poles as an incident to the labor factor. Of course, the construction work in every year is somewhat different from that of any other year, and there is some of that also reflected.

In connection with Defendants' Exhibit X-11, sheets 1, 6 and 7; Mr. Cummings used the number of hours as 9,242 hours for aerial cable for 1929. I have examined the routine estimates of the Illinois Bell Telephone Company in the Chicago area in this account for the year 1929. About 189,000 hours of labor performance were included in connection with the routine estimates of the Company in this account for 5805 this year. The result of that is that Mr. Cummings has considered, in arriving at the results shown by him on page 1 of this exhibit, about 5 per cent of the labor hours of the Illinois Bell Telephone Company in this account. The total labor expense involved in the account for the year 1929 was about $200,000.

By the use of this 5 per cent of the Company's total labor in this account for the year 1929 he then arrived at a correction factor of 63.32 per cent. He applies this correction factor to the entire account so far as labor is concerned. Having gotten only 5 per cent of the total labor involved in this

account for the year 1929 on both specific and routine, he then uses this correction factor of 63.32 per cent based on a study of only 5 per cent of the labor, and applies it to the entire labor of over $200,000. He implies that if the
5806 entire aerial cable plant existing in 1923 were to be reproduced in 1929, the labor portion should be reduced about 37 per cent, and, of course, that is based on only a 5 per cent study of the 1929 performance.

He showed that the increase of labor efficiency in the underground cable account as between 1923 and 1929 was about 5 per cent. That study was based upon an examination of 245,000 hours of labor performance. Even on that, though, his result was not correct. He failed to consider the increased cost of building cable construction in 1929 over 1923. Now, as a matter of fact, it cost over 16 per cent more to put cable in these buildings in 1929 than it did in 1923. I do not think this method that he followed was a correct one.

When Mr. Cummings gets this correction factor, he then applies it to the total exchange aerial cable account, so far as labor is concerned, found in my June 30, 1923 appraisal, to get that labor to the level of December 31, 1929, in
5807 accordance with his method. By this method he succeeds in reducing the appraisal in this one account by about $1,000,000. In making this comparison, he did not use the productive hourly labor rate of 1929. If he thinks he has got a reduced labor performance in 1929, he certainly ought to at least give us the benefit of the higher productive hourly labor rate which the Company experienced, but he made no effort to apply any such productive hourly labor rate, which he used in criticizing my 1921, 1922 and the first six months of 1923 appraisal. The cost conversion factor as derived from the productive hourly labor rate for 1929 in this account was about 18 per cent higher than the cost conversion factor resulting from my typical gang set-up.

In Exhibit X-11, Mr. Cummings did not make any comparison of labor performance for the sub-account 35-C,
5808 building cable, between the years 1923 and 1929. I think I have already touched on the result of this omission.

The result is to give a lower labor hour performance for the underground cable account as a whole than if the building cable had been included, because the work done on specific estimates in building cable required 16 per cent more labor hours per unit in 1929 than was required for similar work in the period 1921, 1922 and the first six months of 1923. If he had applied his 1923 labor units to the materials added to the building cable sub-account for 1929 and combined the results with those for the other underground cable sub-accounts, he would have obtained a result showing that the combined performance in 1929 was 99 per cent of the 1923 performance.

I do not think it follows from the fact that work is done under the routine estimates that it is so-called piecemeal construction.

5809 "Q. Now, Mr. Sloan, in order to shorten this testimony as much as we can, I am going to read you certain extracts from Mr. Cummings' testimony, appearing at page 3695 of the transcript, and merely ask you to say what you have to say in connection with the same subject-matter.

"The questions are by the Court:

'Judge Wilkerson: On this piecemeal construction, is it your idea that the method which has been used by the plaintiff in this case results in a larger figure for the reproduction cost than would be arrived at if you undertook to assume a city like Chicago today, without any telephone system at all, and you undertook to install a telephone system *de novo*—

'The Witness: Right.

'Judge Wilkerson: —in such a city?

'The Witness: Yes.

'Judge Wilkerson: You think that would result in a larger reproduction cost?

'The Witness: Yes.

'Judge Wilkerson: Notwithstanding the added expense of putting the wires into the buildings and tearing up the streets, and everything else, which would cost so much more today?

'The Witness: Yes.'"

5810 We have attempted to reprodnce this property, assuming the conditions under which it was actually built. We have not injected any of the additional costs that would be incurred today, except as these costs have been incurred in the current work of each year. We feel very strongly (and Mr. Hagenah, I think, corroborated that statement at the previous hearing) that if the property were being reproduced today, the tremendously congested condition of the streets, both as to traffic and as to underground obstructions, would so greatly add to the cost of reproduction as to far outweigh any differences between routine and specific performance which Mr. Cummings has been at such pains to emphasize. When I talk about "the conditions", I am not talking about the necessity of cutting pavement which did not exist when the work was put in, but am talking about the traffic conditions in the streets, the general underground conditions, where it is

5811 necessary to shovel the dirt out, in some instances three or four times, in order to put in underground conduit; things of that sort, things that I mentioned about this building cable. There are many things that would so far outweigh the original cost, in my opinion, that I do not believe the property could be reproduced today for even the figures I have estimated it.

In connection with Defendants' Exhibit X-5, which attempts a comparison of my gang set-up as of June 30, 1923, and the set-up used in Exhibits A-2 to A-10, inclusive, as I recall, there is no difference in our pole line gang. We used the same gang throughout on that. In the exchange aerial cable, we increased the size of the splicing force, because the practice of the Company about 1923 had been to greatly increase the number of cable terminals per 1,000 feet of cable, and their own practice showed that they increased their splicing forces in proportion to the line installing forces about that time.

5812 Now, in the case of exchange aerial wire, the Company discontinued using the so-called line gang for aerial wire, and used gangs made up entirely of line installers. Of course, the wage of one line installer is as typical as a dozen to arrive at a comparative factor. Now, I might add that

that change in aerial wire is due very largely to the fact that most of the aerial wire in Chicago now is just drop wire and put up by line installers.

As to exchange underground conduit: it seemed that the practice of the contractors had been to gradually increase the size of their gangs. We had formerly used 30 men in a gang, and now, in the later appraisal, we used 50. Of course, most of the conduit labor is the so-called common labor, although they are very skilled in that particular class of work, so a conversion factor based on 30 or 50 does not change the index number to any great extent.

5813 The Company in the last 10 or 12 years has been making use of very much larger sized cables. They have been using the 900 and the 1200, and, in more recent years, some of the 1800 pair cable. Of course, that has meant that they have had to enlarge their splicing gangs in proportion to their pulling in gangs, and we tried to reflect that situation in our later exhibits.

I did not mean to indicate that there was a sudden change as of June 30th; that prior to that time they had used a certain gang, and that then, on the first day of July succeeding, the gang had been entirely changed. It was simply a gradual transformation, and we tried to reflect it in our later work.

The following is an excerpt from the transcript of Mr. Cummings' testimony, appearing on page 3687 of our transcript:

> "I can illustrate it in this way: You might have a gang set a pole in South Chicago, you might move that gang to Beverly and set another pole; you might move that gang out to Austin and set another pole; you might move them up to Rogers Park and set another pole; you
> 5814 would be setting a few poles in a piecemeal way at an enormous cost because you would be spending a great deal more money than if you set those poles in a wholesale way."

No such thing ever happens in the construction experience of the Illinois Bell Telephone Company in the city of Chi-

cago. That is absolutely contrary to the facts. The Company has never followed any such practice as that.

In sheets 4, 11, 20, and 30 of Exhibit X 8, which covers the two and a half year period 1921, 1922 and the first half of 1923, and in sheets 6, 8 and 10 of Exhibit X 11 for the year 1929, Mr. Cummings shows certain specific estimates and the "total construction charges" to those estimates, under certain accounts and sub accounts, and then has prepared tables attempting to show that, with respect to many of these estimates, the average dollar cost is relatively small. I have examined Mr. Cummings' work sheets used in this connection and also the specific estimates of the Illinois Bell Telephone Company, to which he refers in this exhibit and from 5815 which he got his data. He took only the dollars charged for labor and materials in the particular year, even though the work was commenced in the preceding year or finished in the subsequent year, and much of his data for that reason represents partial costs and not complete costs.

If one of these exhibits concerns the year 1929 and if there was a particular estimate that had been commenced in 1928 and finished in 1929, then he took the total charges to construction in that particular estimate for 1929 and did not consider those for 1928. Likewise, if an estimate of work was commenced in July, 1929, and was finished in 1930, all that his figures reflect are the actual charges to construction for materials and labor for 1929. With respect to some 5816 of these estimates he got a minus quantity. In a particular year, if there was an adjustment made on account of cost incurred in a preceding year, it would result in a red adjustment. Of course, it would not mean that no work was done at all in that particular year, but only that an adjustment was made in that year with respect to labor performance for material installations in a prior year. That is probably the way he arrived at the figures that he got.

The result is, then, that he has not shown the total cost of the materials placed and the work performed under many of these estimates. He then divides the total work done under

the estimate into the various accounts and sub accounts.
5817 In other words, in order to make this comparison, if work was done in the exchange pole line account, in the exchange aerial wire account, and the underground cable account, these figures of Mr. Cummings' do not aggregate the work done in the three accounts, but they divide it between the three for the purpose of making the comparison, so that when he repeatedly points out the fact that the total dollars charged to a given account under one estimate is less than $2,500, he ignores the fact that the minimum amount of $2,500 which the Company has set for specific estimates is intended to cover the minimum cost of the estimate, including all accounts to be charged thereto, and not just one account.

For one or two concrete illustrations of the result obtained by this method of Mr. Cummings', I will have to refer
5818 to his list of exhibits. Now, taking estimate No. 22,194, that estimate number is shown under both aerial cable and underground cable. Now, the charges which he considered for aerial cable show $605. Now, the total cost of aerial cable shown on that particular estimate was $1,568, over twice as much. Take the next, in that same estimate of underground cable he showed in that year a charge of $1,352 for exchange underground cable. Now, the actual total cost of the underground cable was $58,000; nearly forty times as much. In his analysis for exchange pole lines, he had three accounts on No. 23,074. He had pole lines, aerial cable and underground cable. He got most of the dollars on poles; he got $616 out of $623. But for aerial cable he got $234 out of a total cost of $3,114, and on underground cable he only got $344 out of a total cost of $6,591.

That was not because he did not include properly for the particular period where he considered the charges, the amounts shown in the period, but because he failed to
5819 include the total charges for labor and material on the estimates during the entire period in which work was being done and labor installed. If he derives results to show that an estimate is only so many dollars, the average size

is only so many dollars, of course his result is entirely erroneous.

In two accounts included in Exhibits X-8 and X-11 I have taken the specific estimates included in Mr. Cummings' exhibits, ascertained the total dollars charged under these estimates to these particular accounts, and then compared the results of such a calculation with Mr. Cummings' results shown in Exhibits X-8 and X-11.

(Which comparison, consisting of eight sheets, was identified as Plaintiff's Exhibit A-252.)

This exhibit does not show what the result would be if you combined all the work done in the several accounts on a different estimate.

5820 If you will look at page 1 of Exhibit A-252, on the second to the last column here, you will notice that Mr. Cummings has set out that 53.39 per cent of all of the estimates were less than $600 in amount. That, of course, is based on his study of the partial estimate. Now, we have compiled in a parallel column there the figures that would obtain if you would consider the entire estimates rather than partial estimates, and you will find there it is only 33⅓ per cent.

This exhibit also shows the average cost on these estimates as computed by Mr. Cummings and my own average cost. Less than 5 per cent of the total charges were included in estimates under $600 in amount.

5821 Mr. Cummings has also, in his direct examination, regarding Exhibit X-8, page 20, stated that 34.14 per cent of the exchange underground cable estimates ran less than $1,000, and that 49.4 per cent of the estimates ran under $2,500. After taking into consideration the total charges to this account on these estimates, I find, instead of 34 per cent of the estimates being less than $1,000 in amount, less than 16 per cent are; and of the total charges to these estimates for this account, less than .7 of 1 per cent are included in this cumulative group. Instead of 49 per cent of these estimates being less than $2,500 in amount, only 31 per cent are actually in that cumulative group, and the total dollar charges

to this group constitute less than 3 per cent of the total construction charges to this account for these estimates. The average cost of each of these estimates in this account, when the total charges are included, amounts to $12,079 instead of $7,249 as shown on Mr. Cummings' exhibit.

5822 On Exhibit X-11, page 6, Mr. Cummings stated that in the case of aerial cable, 83.87 per cent of the total number of estimates for 1929 were for amounts less than the $2,500 minimum which has been referred to. After taking into consideration the total charges to this account upon completion of the estimates, I find that only 62 per cent of the estimates were less than $2,500 in amount, and that these estimates involved less than 20 per cent of the total charges to this account for these estimates and that the average cost of each estimate was $2,805 instead of the $1,480 shown by Mr. Cummings. Referring again to Exhibit X-11, page 8, Mr. Cummings testified that 54 per cent of the estimates for main underground cable ran under $2,500 each during that year. After including the total charges to this account for these estimates, I find that, instead of 54 per cent of these estimates being under $2,500 in amount, only 18.9 per cent were, and that the total cost of these estimates under $2,500 amounted to less than .5 of 1 per cent of the total charges
5823 to this account on these estimates. I also find that the average cost of all of these estimates was $34,894 instead of the $6,932 shown by Mr. Cummings. That appears on the last sheet of Exhibit A-252; "Average cost of each estimate", shown by Mr. Cummings as $6,932, is found by me, taking into consideration the total work done on the estimate, $34,894.

I have examined Defendants' Exhibits X-1, X-2 and X-4. I have also examined City's Exhibit 95 introduced at the former trial. In Exhibit X-2, Mr. Cummings found the material cost of typical plant in the pole line account as I had obtained it in each of the years 1911 to June 30, 1923. He then ascertained for the first six months of 1923, the relation of labor cost to the material cost and arrived at the dollar

cost of labor, which was, in this case, $3,737.78. He then converted the dollar cost of labor for each year backwards, solely by the use of my labor cost conversion factor.

5824 The result of this method is to assume that the labor conditions in each of the preceding years were identical with those of the six months' period ending June 30, 1923. This assumption is absolutely not true.

I obtained my percentages of labor and materials for each of the years by a consideration of the conditions actually existing in each year. One of the factors affecting this calculation is the inclusion of a large number of Commonwealth Edison poles in incidentals in the years 1918 to 1923. Where Mr. Cummings shows a labor cost on poles for the year 1915 of $2,539.33, the labor cost as I ascertained it was $863. The principle used in this Exhibit X-2 is substantially the same as that used in old City's Exhibit 95, and in X-1 and X-4.

Mr. Cummings, in his testimony in connection with
5825 Exhibits X-6 and X-9, has pointed out the fact that the difference between the results which he obtained by his so-called "Company Experience" and the results I obtained by my appraisal method, showed an increasing difference in each year from 1923 backward. The reason for this increasing difference is due almost entirely to Mr. Cummings' use of the productive hourly rate in obtaining his labor cost trends. However, as I have shown on Exhibit A-247 this tendency is reversed and the results obtained by Mr. Cummings from the use of such method would be considerably in excess of our results. Now, of course, part of that spread between 1921 and 1923 is due to the different labor conditions that may have existed between the two years. The conditions
5826 for doing work in any two years are never the same.

Secondly, if you corrected the exhibits as we have done for the errors which Mr. Cummings has made, the spread between 1921 and 1923 is very much reduced, but the principal difference for that spread between 1921 and 1923 is the fact that he converted from the very high peak of 1921, which was the highest productive hourly rate that had ever been experienced by the Company up to that time, to the very lowest

productive hourly rate which they experienced, in the first six months of 1923. A conversion factor in any other year when they do not go from one extreme to the other, would not show any such spread as he gets.

The amount of taxes accrued by the Company in 1923, which I used in my computation to arrive at the amount of this item in the undistributed construction costs was $1,802,765. The amount of taxes accrued by the Company in 1930, which I used was $4,811,781. Those amounts that were accrued
5827 were almost identical in 1923 with the amount actually paid for tax purposes, and was about $4,000 less than the amount paid in 1930. The percentage of increase in the actual dollars accrued between the two dates was 167 per cent. The percentage of increase in the amount of taxes which I have calculated as between these two years, 1923 and 1930 in my undistributed construction expenses is the same figure, 167 per cent.

I tabulated the amounts for taxes during construction as follows: In the 1923 study, the annual amounts were set down opposite the year in which the assessment was made. In the 1930 study, the annual amounts were set down opposite the year in which the taxes would be paid.

That is, in one, we set them down against the assessment
5828 year, and in the other, against the year of payment.

We dropped two years' taxes in the last calculation. That should have been included, and it is entirely proper in our calculation to include them.

I have re-calculated the 1930 taxes on the same basis as used in the 1923 study and tabulated the results in the same way. The result obtained in this manner check within 51/100 of 1 per cent with the result contained in Exhibit X-11. The re-calculation of the 1930 tax on the 1923 basis is about $29,240 lower than that I have shown. I believe that the amount against which taxes are calculated should include overhead expenditures in accordance with the way it is actually done in the Company's experience.

Reference has been made in the testimony of Mr.
5829 James G. Wray, to the inclusion of construction work

in progress in the study which I made as of December 31, 1930, Exhibit A-11, in computing structural overheads. In making my computation, I included the plant as it was being built. I, of course, did not include any additional amount for construction work in progress, as such work is carried on the Company's books. That is, my dollars were just reproduction dollars, exclusive of any amounts carried on the Company's books for construction work in progress.

In making my study for structural overheads, I did not proceed, so far as the South Town capital stock tax is concerned, upon the assumption that the capital structure of the Illinois Bell Telephone Company would be the same over the period of construction; just on the contrary. I proceeded on the premise that all taxes would relate themselves to the amount of property then being constructed. I have not
5830 assumed with respect to this tax, or any other tax, that the amount paid in 1930 would control, in any other year, but I have related my structural overheads to the plant existing in each year.

"Mr. Thompson: I now offer the exhibits that were identified by this witness."

5831 R. H. GREGORY, recalled as a witness on behalf of the plaintiff, having been previously duly sworn, further testified in rebuttal as follows:

Direct Examination by Mr. Thompson.

June 29, 1932.

Testimony has been given in this case that there is included in the Western Electric Company's balance sheet, con-
5832 tained in certain of its stockholders' reports under the title "Current liabilities", certain notes payable. In Exhibits A-77 and A-80, both inclusive, in arriving at "Average investment", I have not deducted such payables. In making up a balance sheet, among other things, you have to show current liabilities. Current liabilities include notes on demand, and other payables for a short period of time. In as

much as there were no notes payable given for merchandise, I have not deducted any notes payable, as the money represented by them is included in the business, and at the risk of the business, and the company is entitled to a return thereon. This method is a proper one to follow in arriving at "Average investment", in my opinion as an accountant.

The Western Electric Company first commenced to borrow money from the Bankers Trust Company, trustee of the
5833 pension fund for the Western Electric Company, in 1927. These loans are evidenced by demand notes. The Western Electric Company has continuously from 1927 (when it commenced to borrow this money) to the present time, borrowed all the money in its pension fund from the trustee. None of this money evidenced by these demand notes has ever been repaid to the trustee.

The form of the payables of the American Telephone and Telegraph Company to the Bankers Trust Company, trustee of pension fund, are the same as the form of the payables of the Western Electric Company to the trustee of its pension fund. Such notes of the American Telephone and Telegraph Company are payable to the order of the Bankers Trust Company, trustee, on demand.

I prepared Exhibits A-222 and A-223 which contain a list of information submitted to Touche' Niven and Company for
examination at New York and Chicago, subsequent to
5834 the list which was introduced in evidence as Exhibit A-73. These exhibits contain a correct statement as to the information furnished and made available to representatives of Touche' Niven and Company during the period referred to on the exhibits.

I have also prepared a list identified as Exhibit A-253, which shows information furnished to counsel for the City of Chicago, subsequent to the information shown on Exhibit A-73. This exhibit contains a correct statement of the information furnished and records made available for the period referred to in the exhibit.

I have examined Defendants' Exhibit X-294, which consists of a single sheet, and Exhibit X-295, which consists of 20

sheets. Shown on these exhibits is certain preferred stock of the Western Electric Company of New York, which was
5835 called for redemption in 1920. (All of the items to which I will refer in this connection are shown on the exhibit, X-293.) The Illinois Corporation, the predecessor of the New York Corporation, had a capital stock of 150,000 shares, of $100 par value, aggregating $15,000,000. It had a capital and surplus of approximately $40,000,000. The stock I refer to is common stock; it had one kind of stock only. It was decided to form a New York Corporation, and the New York Corporation was organized, and issued 150,000 shares of 6 per cent preferred stock redeemable at $120 per share, and 450,000 shares of no par common stock. The effect of that transaction was that a man who had one share of stock in the Illinois Corporation received in payment therefore one share of 6 per cent preferred stock in the New York
5836 Corporation, and one share of no par value common stock of the New York Corporation.

In 1920 it was decided to redeem this preferred stock, together with an issue of June 30th, 1917, of a similar amount of 6 per cent preferred stock and to issue in exchange therefor common stock. This was done on March 9th. The resolutions of the Board of Directors were made on February 19th. One of them called for the redemption of the preferred stock, and the other called for the issuance of the common stock. The American Telephone and Telegraph Company owned practically all of the preferred stock, and turned in to the company all of its preferred stock in payment for the new issue of common stock. In the whole transaction, there was approximately $350,000 to $360,000 of cash paid to preferred stockholders who did not take common stock. The American Telephone and Telegraph Company received no portion of this $360,000.

On Exhibit X-294 this transaction is treated in part
5837 as a cash dividend received to the extent of $2,936,940.

The transaction is also treated as a cash dividend in Exhibit X-295 as follows: on sheet 3, to the extent of $21,000,000; sheet 4 over $16,000,000; sheet 5, $3,000,000; and

in the summary sheet 12, to the extent affected by the previous sheets.

I am familiar with sheet 1 of Defendants' Exhibit X-13, which shows a trend prepared by Mr. Cummings in connection with Western Electric Company's prices and with the last column on that exhibit entitled "Gregory Statement B". There were included in the figures on which I based my statement as to price reductions by the Western Electric Company and their effect, all loading coils and cable terminals sold during this period of time by the Western Electric Company. I also included all receivers, transmitters and induction coils sold by the Western Electric Company to the American Telephone and Telegraph Company during the years 1923 to 5838 1927, inclusive, as well as all receivers, transmitters and induction coils sold to the Bell Associated Companies from 1928 to 1930, inclusive. No receivers, transmitters or induction coils were sold to Bell Associated Companies prior to 1928. Receivers, transmitters and induction coils were sold to the American Telephone and Telegraph Company subsequent to 1927 only in small amounts to the Long Lines Department. The figures upon which this trend was based do not include any sales of Class "C" material to the Bell associated companies.

Under the column "Approximate effect of price changes—annual basis" on Exhibit A-83 is shown the effect of the price change applied to the total quantities sold during the 5839 year, regardless of the date of the price change. The price changes were effective for varying periods from two months to twelve months' periods. Statement "B", which is referred to in Mr. Cummings' Exhibit X-13, is a statement which I prepared and delivered to counsel for the City of Chicago at their request. Statement "B" was prepared on the same basis as Exhibit A-83, and it shows that fact upon its face.

I know of certain index numbers developed by Mr. R. W. Burgess, which have frequently been referred to in this case. R. W. Burgess is Chief Statistician of the Western Electric Company, in the Comptroller's Department. These index

numbers were developed for the use of the Chief Statistician, to give information in connection with trends.

There are manufacturing concerns other than the Western Electric Company which use a standard cost system.
3840 I have prepared a statement (which was identified as Exhibit A 254) of certain companies which use a standard cost system.

"Q. I call your attention to the following testimony of Mr. McCann, at page 4137 of our transcript:

"Question: You included in Exhibit X 67 all of the profit on the sale to the International Telephone and Telegraph Company, and you allocated all of that profit to the period since the organization in 1918 to 1925, is that correct?

"Answer: Yes.

"Question: And the reason?

"Answer: I allocated it to the period 1918 to 1925 for the reason that the annual reports of the Western Electric Company for the years prior to 1920, show that the foreign business of the Western Electric practically ceased during the war, and that the business was operated in the years immediately preceding 1918 at a loss, and that there were large losses in the investment itself, due to wartime condition.

"When Mr. McCann was asked in his cross-examina-
3841 tion to give the annual reports to which he referred in his above testimony, he indicated certain portions of the annual reports of the Western Electric Company for the years 1914, 1917, 1918 and 1919. Have you prepared in exhibit form the extracts from the annual reports for these years to which Mr. McCann referred, which exhibit has been identified as A-255?

"A. I have."

While the foreign business of the Western Electric Company was interfered with to a large extent by the war, there was considerable activity among some of the companies, and in other companies there was no activity at all. Our Antwerp

factory was taken over by the Germans in 1914. When, however, the facts were known as to the earnings for each of the years, we find that in each of the years a profit was made from 1914 to 1918, inclusive.

There was a situation with respect to the prevailing unfavorable rates of exchange which it was thought at one time would cause a loss to the Western Electric Company.
5842 That did not turn out as unfavorably as we expected.

The facts to which I have just testified, that is, about the International Western and its predecessor, and its subsidiaries having made a profit in each year, was shown in the underlying data which was made available to Touche' Niven and Company. That the underlying data was in connection with the consolidated earnings statement which was delivered to them on February 11th.

The profit on the sale of International Western Electric Company stock owned by the Western Electric Company related to the profits of the Western Electric Company and its foreign companies from 1882 to 1925.

Dr. Arthur Hunter, Chief Actuary of the New York
5843 Life Insurance Company, who testified in this case, was employed to make an investigation of what amount should have been accrued by the Western Electric Company under its Plan for Pension Fund purposes on March 28, 1932.

The two statements, identified as D-25 and D-26, were furnished to the defendants in this case on October 28, 1931.

Up to March 28, 1932, the Western Electric Company had never employed or had in its employment any actuary for the purpose of ascertaining the proper amount of accruals for pension fund purposes, although Mr. Burgess used methods employed by actuaries, in making his computations. Until after Dr. Hunter had been employed and had done his work, the officials of the Western Electric Company did not know that their actual accruals for pension fund purposes had been too low for the period 1923 to 1931, inclusive. But without actual knowledge as to the facts, I doubted whether the
5844 accruals had been too high. We employed Dr. Hunter on account of the objection given by the defendants to

my giving any testimony on the actuarial computation for pension fund purposes.

"Q. Attention has been directed to the fact that a reconciliation was furnished to the defendants in this case from which Mr. McCann inferred that no claim had been made by the Western Electric Company that it had the right to deduct as an expense for the years 1924, 1925, 1926 and 1927, in its income tax reports to the government, the item of $2,000,000 set up as an additional depreciation reserve on machinery in 1928.

"What is the fact in this connection?

"A. The field examiners in the latter part of 1930 went over our 1924 and 1925 figures. At that time we made a claim for that part of this $2,000,000.

"Mr. Goldstein: If the Court please, we object to this answer, and the question, on the ground that they had refused to make available the correspondence and the findings in this transaction, and they are now testifying to something that there is no possible way for us to check up on to see whether—

"Mr. Goldstein: It is all hearsay.

5845 "Mr. Thompson: This question was not involved in this case until Mr. McCann testified.

"Mr. Thompson: I would just like to make a brief statement. He testified that the Western had asserted no claim on account of this extra $2,000,000 for depreciation, and he based his testimony upon a reconciliation that had been furnished to him in which he said this amount was considered as a difference between the Western Electric Company's depreciation, as set up in Exhibits A-77 to A-80, both inclusive; and that allowed by the Government.

"Now it was only because of that fact that I have asked Mr. Gregory about this matter. He has here a copy of the text that was filed in this connection with the Federal Income Tax authorities.

"Now, if Mr. Goldstein is willing to admit—or is willing to withdraw Mr. McCann's statement that no claim was made by the Western Electric Company, why, I will pass it. Then I will have no point about it.

"Mr. Goldstein: We are not willing to withdraw anything—

"Mr. Thompson: All right.

5846 "Mr. Goldstein (continuing): —that was based upon information that we had, and if you refuse to give us information—

"Judge Wilkerson: How do I know what they refused to give?

"Mr. Goldstein: Well, they refused—he is discussing now the transaction with the field examiners.

"Judge Wilkerson: I do not know anything about it.

"Mr. Goldstein: The record shows that they refused to give Mr. McCann the correspondence with the field examiners, and that is one of the things in this record.

"Mr. Thompson: We refused to turn over to Touche' Niven all of the files between the Western Electric Company and the Government in connection with matters that were then pending, naturally, of course we did.

"All I am after is the ultimate fact, as to whether—

"Mr. Goldstein: That is one of the—

"Mr. Thompson (continuing): —as to whether the Western Electric Company is making a claim that it is entitled to this allowance for depreciation by the Government.

"Mr. Goldstein: Well now,—

"Mr. Thompson: It is to meet testimony which Mr.

5847 McCann was allowed to give, and he stated—he stated as a matter of fact in his direct examination that we had not made any claim for it.

"Mr. Goldstein: And you refused to give us—

"Mr. Thompson: Now, Mr. Goldstein—

"Mr. Goldstein: —the items—

"Mr. Thompson: Just a moment. We—

"Mr. Goldstein: And you are now asking this witness to give this, and there is no way, if we go down to New York, to check to see whether that is the only item, or what there is to it, your Honor. We are opening up an issue, now, which they have refused us the information on.

"Judge Wilkerson: Well, I do not know what you are talking about.

"Mr. Goldstein: Well, it appears in the record now that we asked them to give us

"Judge Wilkerson: No, no, let us confine ourselves to just what

"Mr. Goldstein: The witness is about

"Judge Wilkerson: Let us confine ourselves to the question.

"Mr. Goldstein: Yes.

"Judge Wilkerson: I understand the attention of the wit
ness is directed to an affirmative statement by a witness
5848 produced by the defendants.

"Mr. Goldstein: Yes.

"Mr. Thompson: That is right.

"Judge Wilkerson (continuing): To the effect that the Western Electric Company made no claim with reference to certain matters. This witness on rebuttal is asked whether it did or not. The objection is overruled.

"Mr. Goldstein: No, that is not the question, as we understand it.

"Judge Wilkerson: It is to meet the testimony of your witness, to rebut the testimony of your witness. Now, if you were permitted to ask one witness a question, why should they not in rebuttal be permitted to ask another witness?

"Mr. Goldstein: That is not the question. The question is—

"Mr. Thompson: All right. I will make it that way.

"Mr. Goldstein: The question is, did he file a paper with the Government?

"Mr. Thompson: No.

"Judge Wilkerson: The objection is overruled. You may save your point.

"Mr. Thompson: I will ask you the question, Mr. Gregory; did the Western Electric Company make a claim
5849 for this?

"A. It did.

"Mr. Adcock: We object to that.

"Mr. Thompson: There was identified during

"Mr. Adcock: If it is in writing

"Mr. Goldstein: If there is something in writing we want to see it, and they have refused us

"Judge Wilkerson: Do you withdraw the testimony of McCann?

"Mr. Goldstein: No.

"Judge Wilkerson: The objection will be overruled."

There was identified during Mr. McCann's testimony, and there has been introduced in evidence, Exhibit X 94 which shows certain surplus adjustments of the 88 companies, about which information is collected in Exhibits A 85, A 86 and A 87. I have determined what the effect would be upon the return as shown in Exhibit A 85, if all of these adjustments were made. The total effect would be .3 per cent, reducing the return from 12.2 per cent to 11.9 per cent. When 5850 I say "return", that is the return of the 88 companies, shown on Exhibit A 85.

I collected and put in binder form the underlying data showing the profits on the Bell and non Bell business of the Western Electric Company for the year 1931 to which I testified in this cause. This underlying data was submitted to Touche' Niven and Company for inspection at the request of Mr. McCann. This inspection was actually made by Mr. McCann and his assistants in the latter part of April, and the early part of May, 1932.

I have examined Defendants' Exhibits X-84, 85, 87 and 88, which are entitled "Western Electric Company, Incorporated, and Subsidiaries. Consolidated Average Investment, Profits, and Percentage of Returns". In arriving at the figures 5851 contained in these exhibits Mr. McCann has deducted from investment the sum of almost $12,000,000 for the year 1930 on account of an item of "good will" appearing in the balance sheet of the Teletype Corporation. When the Western Electric Company purchased Teletype, it paid actual cash for this good will equal to the amount of good will set up on the books of the Teletype Corporation. In my opinion,

the deduction of this good will in computing average investment in these exhibits, is not a proper one.

In Exhibits X-51, 52, 84 and 85, Mr. McCann has reduced average investment by excluding notes payable, but has not decreased the earnings by a reduction of the interest applicable to the notes taken out of investment. The reduction made on account of Notes Payable in Exhibits X-51 and 52, for the period 1916 to 1930, is $278,000,000. That is the cumulative effect. For the period 1923 to 1930, the cumulative effect is about $165,000,000. The amount of interest
5852 paid on these obligations during the same period of time was: for 1916 to 1930, $15,753,000; and for 1923 to 1930, $8,626,000. The same data for Exhibits X-84 and X-85 is as follows: for the period 1916 to 1930, the cumulative effect was $275,000,000, and for the period 1923 to 1930, $146,000,000. The interest is the same as I have given for X-51 and X-52.

I think the method followed by Mr. McCann in Exhibits X-51, X-52, X-84 and X-85 is clearly wrong, but since he has deducted the amount of the notes payable, he should have deducted the amount of interest on such payables from earnings before computing his percentage.

In Exhibits X-51 and X-52, Mr. McCann also excluded certain amounts which he claimed were excess cash in the following amounts: for the year 1916, $2,558,000; 1917,
5853 $2,299,000; 1920, $901,000; 1921, $3,343,000; 1922, $3,660,000; 1924, $1,644,000; 1925, $20,561,000; or a total of $34,966,000. After he had taken out this excess cash, he decreased the profit on some of the exhibits by $874,000 by excluding the interest earned on this claimed excess cash. But in Exhibits X-51 and X-52 he did not decrease the profits at all. The failure of Mr. McCann to exclude the interest on such claimed excess cash in these Exhibits X-51 and X-52, also results in his overstating the per cent return on average investment.

5854 In the exhibits where he did exclude the earnings he allowed the Western Electric an average of 2.5 per cent on such claimed excess cash. The Western Electric Company actually earned approximately 5 per cent on its cash and cash

items in 1925. The result of Mr. McCann's applying an average per cent to claimed excess cash when almost two-thirds of the claimed excess cash excluded by him is applicable to a year in which the Western Electric Company actually did earn 5 per cent on its cash and cash items is that he has overstated the profits in 1925 by a little over $500,000. This error is reflected in Exhibits X-54, X-55, X-57, X-58, X-60, X-61, X-63 and X-64.

Comptroller's Report 7.14, referred to by Mr. McCann contains the following phrases: "Normal Working Cash Balance"; "Normal Cash Balance". These phrases represent a bogey, which the Western Electric set, and at which they hope to keep their cash balances. They do not at all
5855 represent the amount of cash that was actually in the business. Mr. McCann had deducted the amount of cash that we actually had when it exceeded the bogey. But when it is under the bogey, he has not given any counterbalancing effect. In 1918, 1919 and 1923, our cash requirements were below the bogey and he made no adjustment of any kind at all in connection with that. He did not give us the benefit.

I think the amount of cash working capital included in Exhibits A-77 to A-80 is extremely low. I know of no manufacturing company that is able to get along with as small a cash balance as the Western Electric Company. As compared with the 88 companies, the cash balance for the Western Electric Company for the period 1925 to 1930 is approximately one-third of the average of the 88 companies.

5856 I am familiar with Exhibit X-97 compiled by Mr. McCann. Mr. McCann attempts to compare concerns which have an entirely different turn-over (and when I refer to "turn-over" I have in mind the relation of sales to plant). For instance, he compares the International Cement Company, which has a turn-over of .4 times, with the Chrysler Company, which has a turn-over of 1.6 times. In making up my exhibits, Exhibits A-77 to A-80, inclusive, the turn-over on sales to Bell and non-Bell customers is practically the same. Therefore, any comparison of this sort has no significance to

the apportionment that is made by the Western Electric Company.

The defendants have followed a different method for the period prior to 1925 and for 1925 and subsequent years in apportioning pension fund accruals between Bell and non-Bell business. Subsequent to 1925 they have based their
5857 apportionment on the basis of the payrolls, which is the Western Electric Company's method. Prior to that time they based their apportionment on basis of the cost of sales, including supplies which were sold in large quantities to non-Bell customers. This method has resulted in overstating profits on the Bell business by approximately $1,500,000. This overstatement of earnings is reflected in Exhibits X-50 and X-53 to X-58, inclusive.

I am familiar with Exhibit X-35, prepared by Mr. Hagberg. In my opinion, if the shop variations to basic gross profits and other adjustments had been apportioned on the basis of the plus and minus adjustments instead of net, there would have been no difference in the result. You have to use some yardstick, some measure of apportionment, and if you
5858 use the net or the gross in my opinion it would make absolutely no difference, for the reasons that I have already given in my testimony.

I am familiar with the method which was used by the Western Electric Company in financing Electrical Research Products, Inc. It was in large part by loans from the Western Electric Company. I have prepared an exhibit which shows the average loans from Western Electric Company to Electrical Research Products for each of the years 1927 to 1930, inclusive.

(Which document was identified as Plaintiff's Exhibit A-256.)

In the year 1929 (in which Mr. McCann shows a return of 309.4 per cent for the Electrical Research Products, Inc., on the upper half of his Exhibit X-79) 74 per cent of the total capital employed in the business of Electrical Research Products, Inc., was represented by loans made to it by the Western

Electric Company. The facts in connection with these
5859 loans which are stated on this exhibit, were furnished to Touche' Niven and Company, on January 19, 1932.

I am familiar with the sale by the Western Electric Company of its common stock in the Graybar Electric Company to the Management Corporation of Graybar Electric Company. The Graybar Electric Company was organized in the latter part of 1925, to take over that part of the Supply Department's business of the Western Electric Company which related to the United States, within the territory of the United States. This business consisted of the distribution of telephone apparatus and cable manufactured by the Western Electric Company, and sold to non-Bell customers, and the purchase of supplies manufactured by others and sold to non-Bell customers. The company was organized, and was maintained as a 100 per cent owned subsidiary of the Western Electric Company for the first three years, that is, 1926, 1927 and 1928.

5860 In disposing of this company, the Western was activated by the desire to maintain its capital entirely for the use of the Bell business, in so far as that was practical. It was also desired to avoid any criticism of being in competition with customers of the Bell System Companies. Competitors of the Graybar Electric Company are large users of telephone service. It was also desired to sell to the employees of the Graybar Electric Company, many of whom were of long standing with the Western Electric Company. The sale was made, and at a price of $9,000,000, which was approximately the book value. Payment was made therefore by $3,000,000 in cash, and $6,000,000 in participating preferred stock. To effect the transfer, the Graybar Management Corporation was formed, which took over all of the voting common stock of the Graybar Electric Company. No employee of the Western Electric Company, or any of its subsidiaries, nor any
5861 company in the Bell System owned a single share of stock in the Graybar Electric Company after December 31, 1928; not a share of common voting stock, but we had the participating preferred stock.

The participating preferred stock shared in the earnings after deduction for all taxes except Federal taxes, for pension fund accruals, for the 7 per cent dividend on the preferred stock, and the sum of $150,000, which is equivalent to 15 per cent on the $3,000,000 of voting common stock held by the Graybar Management Corporation. The extent of the participation is one per cent for each thousand shares of preferred stock outstanding, and from the amount thus determined is deducted the Federal tax on the 7 per cent preferred dividends, and also on this additional dividend, and the balance was paid over to the Western Electric Company, or whatever subsidiary owned the company at that time.

The Western Electric Company or its subsidiary had an option to re purchase the stock on giving 90 days' notice,
5862 but within that time the Graybar Management Corporation could redeem the preferred stock, or purchase that stock, and if it were redeemed or purchased the Western Electric Company would have to give up its preferred stock. Thus Graybar Management Corporation was in a position to prevent the Western Electric Company from exercising that option.

The preferred stock has been reduced since the date that it was first issued. It now stands at four million dollars as compared with six million dollars, which was the amount outstanding at the time of the sale. The employees had the right to require the Western Electric Company to take back the property on or before December 31, 1933, on payment of the purchase price, with interest at 6 per cent after making due allowance for any dividends which have been received by them in the meantime. The sale was a bona fide sale, under
5863 an agreement which made the necessary provisions to protect the seller's right if full cash payment was not made for the property. In other words, only $3,000,000 of cash was obtained, and $6,000,000 was outstanding, to be paid for at a later date.

"Mr. Goldstein: I move to strike out the answer on
5864 the ground—that part of the answer which says that 'The agreement contained the necessary provisions to

protect'—or whatever it was, because the terms of the agreement will speak for themselves; it is contained in the instrument, and it is in the record.

"Mr. Thompson: I shall not object, your Honor, to that portion of the answer going out in which Mr. Gregory has stated the terms of the writing between the Graybar Management Corporation, and the Western, and the Graybar Electric.

5865 "Mr. Goldstein: Then I also object to that portion of the answer in which the witness has said it was a bona fide transaction, because that is a matter of law, and the conclusion of the witness, which he is not justified in making.

"Mr. Thompson: I think it should stay in if your Honor please. It has been openly charged in court by counsel that this was a sham transaction.

"Mr. Goldstein: The instrument speaks for itself. He is drawing a legal conclusion from the document.

"Judge Wilkerson: Are all of the documents introduced?

"Mr. Goldstein: Yes.

"Mr. Adcock: Yes.

"Mr. Goldstein: They are all in the record.

"Mr. Thompson: But they have tried to create the impression here Mr. Goldstein has that there was something unusual—

5866 "Mr. Goldstein: There is.

"Mr. Thompson (continuing): —or unfair or improper about this transaction.

"Judge Wilkerson: You say, there is?

"Mr. Goldstein: Yes.

"Judge Wilkerson: He may answer the question. Complete your answer.

"The Witness: The question is, whether it is bona fide—

"Mr. Thompson: The answer is in the record. We have the answer.

"Mr. Goldstein: It is a legal conclusion from the documents, and not the witness' testimony. I am not the witness. He is drawing legal conclusions from the documents themselves, and they are in the record. Now, if there are any

other facts that this witness has other than those that are in the record, we should have them, because we have attempted for four months to get all of the facts, and we did not get them until toward the end.

"Now, we want to get all of the facts we can, but we object very strenuously to this witness expressing an opinion as to the legal conclusion of these documents.

"Judge Wilkerson: Well, so far as he has expressed any legal opinion, it may go out.

5867 "Mr. Goldstein: He says it was a bona fide transaction.

"Judge Wilkerson: Any legal opinion—he used the words 'bona fide'.

"Mr. Goldstein: Yes.

"Judge Wilkerson: What do you mean by that?

"The Witness: I mean it was a sale made in good faith, with full intent—

"Judge Wilkerson: Well, leave out the 'good faith'.

"The Witness: I mean it was a sale—everybody connected with the sale knew that the Western Electric Company wanted to dispose of that property; we did not want to have that property—carry on that business any longer; we wanted to go out of that business, and the method of selling it to our employees was a way of taking care of our employees, who had been in long term service, and at the same time dispose of the business.

"Judge Wilkerson: Is there anything about this transaction which does not appear in the documents here?

"The Witness: Not that I know of.

"Judge Wilkerson: All right.

"Mr. Thompson: The Graybar Electric Company—

5868 "Judge Wilkerson: He says that there is nothing about it that does not appear in the documents themselves.

"Mr. Goldstein: All right.

"Judge Wilkerson: Now, if it is an unfair transaction, or in bad faith, a bad faith transaction, on the face of the documents, it is. He says there is no secret agreement—

"The Witness: No, sir.

"Judge Wilkerson: —or any understanding, so far as he knows.

"The Witness: Nothing.

"Judge Wilkerson: (Continuing) Nothing about it except what appears on the face of the documents.

"The Witness: That is correct.

"Mr. Adcock: Then his answer should be stricken out.

"Mr. Thompson: No.

"Mr. Adcock: That it was a bona fide transaction.

"Mr. Goldstein: What is his answer—

"Judge Wilkerson: He used the words 'bona fide' in the sense in which a layman generally uses the term.

"Mr. Thompson: Yes.

"Judge Wilkerson: And that there is not anything about it except what appears in the papers themselves.

"Mr. Goldstein: With that understanding, his answer may stand.

5869 "Judge Wilkerson: All right. That is the understanding.

"Mr. Goldstein: That is the understanding.

"Judge Wilkerson: Yes.

"Mr. Goldstein: All right.

"Judge Wilkerson: That is what he meant by it.

"Mr. Thompson: In setting the candles around, I do not want any misapprehension. I want the facts, about the fact that these men were employees of Graybar, and that this business was a non-Bell business. I do not want those to go out.

"Mr. Goldstein: The record shows that very clearly and completely.

"Judge Wilkerson: And he said that it was openly discussed there among all of the parties that the company wanted to sell this business.

"Mr. Goldstein: All right.

"Judge Wilkerson: And that the employees wanted to take it over.

"The Witness: That is right.

"Mr. Goldstein: All right.

"Judge Wilkerson: Go on.

"Mr. Thompson: Has the Graybar

"Judge Wilkerson: That was a matter that was discussed openly?

"The Witness: Negotiations were carried on for nine months to a year.

5870 "Judge Wilkerson: All right."

The Graybar Electric Company has never done any business with the Bell associate companies.

When requests were received from Touche' Niven and Company, or from any other sources, which required the Western Electric Company to furnish information in a form in which it did not exist, and where it did not exist, and where it was necessary to prepare one or more statements, we started immediately in the preparation of these statements and delivered them to Touche' Niven and Company, or to the representatives of the defendants as soon as they were completed. I furnished to Touche' Niven and Company for their inspection the underlying data for Exhibits A 93 to A 98, both inclusive.

With respect to item 2, on Exhibit X 312, the data underlying the consolidated earnings statement of the Western Electric Company and its subsidiaries, the facts about the submission of this underlying data are that the pre-

5871 liminary statement was sent to Mr. Goldstein on December 19, 1931, and he was informed at that time that that was a preliminary statement which gave information from 1916 to 1931 inclusive, 1931 on the 8 months basis raised to a 12 months basis, and also he was informed that it was necessary to make certain checks, and that we were going to have the statement audited. After those checks had been completed, and the audit completed, the revised statement was sent to Mr. Goldstein on February 11th, and the underlying data delivered to Mr. McCann of Touche' Niven and Company on the same date.

I am familiar with Exhibit D-61 which was delivered by me to Mr. Goldstein while I was on the witness stand. I received from Touche' Niven and Company, while I was in

New York, a letter dated April 21st, making a request in connection with this matter. The letter is addressed to the
Western Electric Company, 195 Broadway, Attention of
5872 R. H. Gregory, Comptroller, and reads as follows:

"Will you kindly make available for our examination the working papers showing the details by years underlying Defendants' Exhibit D-61, entitled 'Analysis of Profits on business other than with Bell Telephone Companies from 1881 to 1927 inclusive'.

"Very truly yours,

"Touche' Niven and Company,

by G. B. McCann."

In response to that request I delivered to Touche' Niven and Company, an instrument which has been identified as Plaintiff's Exhibit A 228, showing the detail by years. On the day of the receipt of this letter, counsel in charge left for Indianapolis, where he was for several days. It was necessary for me to get in touch with him at Chicago, after he had returned to Chicago. About 85 per cent of the amount involved in this D-61 statement had been available for the examination of Touche' Niven and Company, in the underlying
5873 data, which they had since February 11th. Later, on a request from Touche' Niven and Company, one of their employees was permitted to copy the underlying data in connection with this matter. Touche' Niven and Company had an opportunity to inspect all of the records in connection with this statement, of the Western Electric Company, and its subsidiaries back to 1916.

I was asked a number of questions about having included in average investment in Exhibits A-77 to A-80, both inclusive, for 1926 and subsequent years, certain so-called working reserves. Under the caption "Working Reserves" are included reserve for moving expenses, federal tax accruals, accruals for pension fund purposes, and for others of similar character. While they are proper charges to cost of sales, they are not expended until some later date; in some cases for considerable length of time. They are therefore moneys invested in the

business, and at the risk of the business, on which we are entitled to make a return.

5874 The actual purchases of the associate companies are not always the same as the amounts contained in their provisional estimates as the estimated amounts of various classes of telephone apparatus which they think at the time they will purchase. These provisional estimates are received by Western either in November or December of the year, for the succeeding year. They are based on facts which are compiled in some cases as far back as July 1 of the preceding period. They in no way represent sales. Many changes must be made in these provisional estimates prior to the end of that year, and during the year for which it is compiled. The sales for the year differ from the provisional estimates not only in the aggregate, but in sub classifications.

The instrument identified as Exhibit A 257 was prepared under my supervision. This shows the earnings of the

5875 Western Electric Company on the Bell business expressed in percentages of sales, and in percentage of (a) average investment, and (B) average investment less amount of depreciation reserve account, 1916 to 1932, inclusive, and 1923 to 1932, inclusive, with adjustments for certain items as listed on page 2 of the exhibit. The purpose of this exhibit is to show the per cent earnings on sales and on average investment, both before and after deducting the depreciation reserve account and after taking into consideration adjustments with respect to certain controverted points upon which I have heretofore testified. This exhibit is self explanatory. I have testified in detail about each one of the items that appears on this exhibit.

5876 I have prepared two exhibits (identified as Plaintiff's Exhibits A-258 and A-259) which show the relation of gross additions to depreciation reserve to the cost of small tools and furniture and fixtures, during the period 1916 to 1932. Under the heading "Gross Additions to depreciation reserve" are shown the amounts which have been charged into cost of sales obtained by maintaining a reserve of 100 per cent depreciation. The second column shows the cost at

December 31st of each year, and the average for the periods shown. The last column shows the relation of the third column to the second column, and it shows that during this period of time taking the two accounts together, the amount charged off represents rates on the average varying from 14.1 to 15.7 per cent of the cost value of the plant.

I know about the contract between the Western Electric Company, the General Electric Company, and the Phonic
5877 Laboratories. The Western Electric Company never received any royalties under that contract. The contract was made in 1921. In 1922 the Phonic Laboratories found that they could not finance the proposition, and the company practically went out of business, and was dissolved in 1927.

(Plaintiff offered in evidence all exhibits identified during the course of this witness' examination. Cross-examination deferred.)

5878 F. M. WILLIAMS, called as a witness in rebuttal on behalf of the plaintiff, having been first duly sworn, testified as follows:

Direct Examination by Mr. Thompson.

June 29, 1932.

My name is F. M. Williams. I reside at Summit, New Jersey. I am at present employed by the Western Electric Company as General Installation Engineer. I have occupied that position about five years. Before that time, I was employed by the Western Electric Company about 18 years. The first year I was on the student apprentice force; for about two years following that I was engaged in preparing central office equipment specifications; for about six years following that I was engaged in standardization work, associated with the equipment engineering; and from that time until April, 1927, or about nine years, I was engaged in various
5879 supervisory capacities in equipment engineering work. The last five years of that time I was in charge of all of

the central office equipment engineering for the Western Electric Company.

I have been familiar for the period commencing January 1, 1923, and continuing up to the present time, with the charges made by the Western Electric Company for its equipment engineering specifications and for installing central office equipment in plants of the various Bell associate companies and with what such charges included from time to time.

I am familiar with sheet 2 of Defendants' Exhibit X-13, which attempts to make a comparison between the equipment engineering and installation prices of both manual and dial equipment used by Mr. Sloan in his appraisals and with certain indices taken from an index number study of Mr. R. W. Burgess. I heard Mr. Sloan's testimony in this connection as to how he had figured his installation cost in connection with manual and dial equipment in Chicago.

I furnished to Mr. R. W. Burgess, the Chief Statis-
5880 tician of the Western Electric Company, the material which he used in compiling his index numbers so far as installation and equipment specifications prices are concerned. The index numbers, which I furnished, reflected the trend of prices of that work for the Bell associate companies.

During the period under consideration, 1923 to 1931, there has been a gradual transfer of installation work from the field to the factory which has contributed substantially to reducing the installation prices as reflected in the Burgess trend. This transfer of installation labor from field to factory has affected both manual and panel installations, but it has affected the panel installation to a greater extent than the manual.

In the earlier panel installations, such as State-Central and Superior offices in Chicago, it was the practice at the
5881 shop to perform only a minor test on the wired equipment. It was then necessary for the installer to perform a detailed operation test on the equipment, involving considerable installation labor, and also the use of expensive equipment. On the later jobs the shop performs this detail operation test, thereby insuring that the equipment was in

operating condition when it was shipped, and this has provided a very much more accurate test of the complicated circuits involved. It was then necessary for the installers only to perform a simple inexpensive routine test on the equipment to insure that no defects had developed during transit or installation. That resulted in lower installation cost in the field and, probably, higher material cost in the factory.

On the earliest jobs, the shop only assembled and wired the equipment on the selector frames, leaving to the installer the job of assembling and wiring this equipment on the sender and test frames.

5882 In our earlier panel jobs, such as State Central and Superior, it was necessary for the installer to perform the cabling and connect all of the apparatus mounted on the relay rack. He also performed an operation test to insure that the equipment functioned satisfactorily. To a very large extent this apparatus is now mounted on the relay rack units in the shop. It is there given an operation test, thereby insuring that it is in operative condition when it is shipped. It is then necessary for the installer only to connect the cabling to the terminal strips at the top of the unit, and perform a minor routine test to insure its functioning satisfactorily.

In arriving at my price trends for internal uses and in determining reductions made in installation prices, I dealt with this situation just as I found it except to exclude the effect of design changes. The Burgess index numbers,
5883 so far as installation prices and equipment engineering specifications are concerned, in no way indicate anything to the contrary of what I have just said.

With respect to the installation prices on manual central office equipment, there have been factors which affected reduction of such costs in one or more types of such equipment more than in others. The Number 1 Western Electric Company switchboard was introduced into general use at least twenty years prior to the beginning of this period under consideration. By 1923 the installation work on this equipment

had reached a high degree of efficiency, and very little improvement in that efficiency was made after that time, affecting installation prices. On the other hand, the Number 11 switchboard was introduced during the early part of this period, and very considerable economies were made in the installation work on that equipment. Furthermore, there was a marked increase in efficiency in the repeater equipment. Both of these were included in the Burgess price trend studies.

5884 The transfer of a portion of installation labor from field to factory has affected equipment engineering specification prices. It has had the effect of reducing the prices of equipment specifications, because it has permitted the Bell associate companies to order the equipment in standardized units, thereby reducing the engineering effort and price. The conditions which brought about increased efficiency in installing the new Number 11 manual switchboard and manual repeater installations has affected our manual equipment engineering specifications price. The equipments referred to were comparatively new, and as time went on we were able to make considerable economies in the prices.

This transfer of a portion of installation labor from field to factory has been going on continuously during this period, but more actively during the middle years of the period.

5885 The trends shown on page 2 of Exhibit X-13 are not trends of comparable situations.

I doubt if all of the data and information necessary for a study to obtain a trend on a comparable basis with the Sloan appraisal for installation labor and equipment engineering prices, is available. It would be necessary to ascertain the prices of equipment specification and installation on a large number of manual and panel installations, and then apply the current price information to each of those installations for each of the subsequent years. It would take at least five men working continuously for a year, I would imagine, to prepare such a study. The Western Electric Company has never made such a study.

5888 ALLEN G. HOYT, recalled as a witness on behalf of the plaintiff in rebuttal, having been previously duly sworn, further testified as follows:

Direct Examination by Mr. Blackman.

June 30, 1932

I am the same Mr. Hoyt who testified previously in this case. I have examined Defendants' Exhibits X-227 to X-259, inclusive.

"Q. Referring to the comparisons set up in Exhibits X-227, X-228 and X-229, in your opinion are those comparisons appropriate to prove anything of value in determining the fair rate of return to the American Telephone and Telegraph Company or the Illinois Bell?

"Mr. Goldstein: I object to the form of the question.

5889 "Judge Wilkerson: The objection is sustained. It is not for him to say whether they are valuable. He can criticize them, and give his opinion on the subject himself, but I do not think he can characterize them."

Those exhibits indicate the cost of certain bond financing, in the rate of return to the Bell System, as compared with the cost of bond financing for certain railroads and public utilities. The spread paid by the Bell System in its bond financing was relatively small, because it issued only high-grade bonds; that is, those rated Triple-A, or Double-A. In selling bonds of high quality, the selling resistance is low and therefore the bankers are able to underwrite issues on a relatively low margin, whereas lower-grade bonds are usually more difficult to sell; they usually require more expense in merchandising, and therefore require a higher margin of

5890 profit. Therefore the comparison in these exhibits is in my opinion of practically no significance.

"Mr. Goldstein: I move to strike out the answer, that it is of no significance.

"Judge Wilkerson: The objection is sustained. Strike

out what he says about it being of no significance. That is for the Court. He can tell what the exhibit shows."

5891 The average yield on a miscellaneous assortment of bonds, that is to say, rating from high down to a medium or low grade, would naturally be higher than the yield on an assortment of bonds confined to the high rating; that is to say, rated Double-A or Triple A. In this comparison, the Double A bonds and Triple A bonds of the Bell System are compared not only with bonds of similar rating, but with bonds of all classes.

"Mr. Blackman: Now in your opinion, is the effect upon the value of the comparison of the matters which you have just stated?

"Mr. Adcock: We object to the question.

"Mr. Goldstein: It is not for this witness to say what value the exhibits have.

"Judge Wilkerson: If he is being examined as an expert, it is necessary to put to him a hypothetical question, which includes all of the elements. He may not give an opinion as an expert in which he assumes these facts about the

5892 Bell Companies, unless they are all incorporated—

"Mr. Blackman: He is only assuming—

"Judge Wilkerson (continuing): —in the question, because—

"Mr. Blackman: He is only assuming the facts which he has stated, and sees on the face of the exhibit.

"Judge Wilkerson: I sustain the objection to that.

"Mr. Blackman: Mr. Hoyt, in your opinion are the facts which are shown in the comparison which we have referred to, sufficient to furnish a proper basis for making the comparison?

"Mr. Goldstein: I object to the question on the same ground.

"Judge Wilkerson: Is that not the same thing again, in just another form?

"Mr. Blackman: It is a very customary form of interrogating a witness—

"Mr. Goldstein: Well—

"Mr. Blackman: in matters of this kind. I cannot see how else you can really get at it.

"Judge Wilkerson: I do not think it is proper, but if you press the question, I will take his answer. I will not
5893 deprive you of a record. I will take it subject to the objection. I do not think it is proper, myself.

"Mr. Blackman: Well then, I will withdraw it.

"Judge Wilkerson: There are several things—either this witness is being examined as an ordinary witness, or he is being examined as an expert.

"Mr. Blackman: Surely.

"Judge Wilkerson: (Continuing.) Now, if he is being examined as an ordinary witness, he testifies to the facts about the Bell financing

"Mr. Blackman: Yes.

"Judge Wilkerson: and he testifies to the facts of the financing of these other companies.

"Mr. Blackman: Yes.

"Judge Wilkerson: Now, if he is testifying as an expert, the question should be so framed that you are not examining him at the same time as an ordinary witness—

"Mr. Blackman: No, sir.

"Judge Wilkerson: while he is testifying as an expert.

"Mr. Blackman: I am examining him solely—

"Judge Wilkerson: (Continuing:) So that if he is testifying as an expert

5894 "Mr. Blackman: I am examining him solely as an expert, and I am asking for his opinion as to the effect of the things he sees before him. Of course, you cannot put a hypothetical question in a matter of this kind, because there is no hypothesis; the thing is there, it is actual; and I am simply asking him whether those things give him as an expert enough information to determine anything.

"Judge Wilkerson: I will take his answer subject to the objection. What is your answer?

"The Witness: Will you just read that question to me again, please?

(Read by the Reporter.)

"Mr. Adcock: What facts?

"A. I think not.

"Mr. Goldstein: Yes, what facts?

"Mr. Blackman: He has just mentioned the facts.

"Judge Wilkerson: I am taking the answer in order that the record may be made here. I have told you what I think about it. Go on. Answer the question."

I think not because the classification of bonds into different ratings is not rigid. Because two bonds are rated Triple-A does not mean that they are identical in security, and
5895 would command identically the same price yield on the market. A very large number of bonds are rated Triple A; naturally, some are better security have better security than others. The comparison of Triple A bonds of one corporation with the Triple A bonds of another corporation proves little in my own opinion, unless all of the pertinent and relative facts regarding each security are available.

"Mr. Goldstein: I move to strike out the answer as not responsive to the question.

"Judge Wilkerson: The record will show your motion.

"Mr. Adcock: And also

"Judge Wilkerson: The ruling is reserved what is it?

"Mr. Adcock: —particularly the statement that it proves little, and what follows.

"Judge Wilkerson: Yes. The record will show your objection."

5896 One of the comparisons I have referred to is a comparison between an indiscriminate lot of railroad and utility bonds ranging from Triple-A down to BAA.

"Q. And they are averaged and compared with the average of the Bell System bonds. In your opinion, is that a proper comparison to make?

"Mr. Goldstein: I object to the question.

"Judge Wilkerson: The record will show the objection, and the same ruling. Go ahead.

"A. I think the comparison has little bearing on the situation.

"Judge Wilkerson: Well, what situation now are you
5897 talking about?

"The Witness: On the question of determining what is a reasonable rate of return.

"Mr. Goldstein: That is a question of law.

"Judge Wilkerson: There are a good many things to be taken into consideration in determining a reasonable rate of return—

"Mr. Blackman: Does it have—

"Judge Wilkerson (continuing): and it is conceivable how that a table made up on the basis of bonds of entirely different classes of Triple A bonds might throw some light on the subject. But it does not seem to me that it is for this witness to tell the Court whether it throws any light or not.

"Mr. Goldstein: No.

"Mr. Blackman: He is only

"Judge Wilkerson: However, I will take the answer. I was merely indicating to you—

"Mr. Blackman: Yes.

"Judge Wilkerson: that I do not think the Court is bound by the opinion of this witness on this subject.

"Mr. Adcock: And we move to strike out the answer.

"Judge Wilkerson: But he can say, and he has said, that, a table that is made up on a mixed basis like this, will
5898 show—or tables made up on that basis will show many results dependent upon the particular bonds which are included.

"Now, whether they throw any light on what the Court shall say in this case as to rate of return, is an entirely different question. It may be that the Court in arriving at or in determining what is a fair rate of return, on this kind of property, should compare this property with other properties, and it may be something that may enter into arriving at a conclusion.

"Mr. Blackman: Yes, sir.

"Judge Wilkerson: But that goes to the question—

"Mr. Blackman: And all we are doing is giving the Court the benefit of this man's expert opinion.

"Judge Wilkerson: as to whether it is material

"Mr. Blackman: Yes, sir, as to whether

"Judge Wilkerson: as to whether it throws any light on the subject.

"Mr. Blackman: As to whether it is appropriate.

"Judge Wilkerson: would seem to me not to be a matter for expert testimony.

"Mr. Blackman: All right, sir.

"Mr. Adcock: May we have the answer stricken out?

"Judge Wilkerson: Well, the motion shows is 5899 shown on the record; the record shows your motion.

"Mr. Adcock: Very well.

"Judge Wilkerson: Go ahead. I will let you make a record on this, Mr. Blackman.

"Mr. Blackman: All right, sir.

"Judge Wilkerson: His answer will be received subject to the objection, and subject to the motion to strike it out.

"Mr. Blackman: All right.

"Mr. Adcock: And will the record be made in the nature of an offer of proof—

"Judge Wilkerson: No.

"Mr. Adcock: in this respect.

"Judge Wilkerson: I will let him put the question to the witness.

"Mr. Adcock: And we object.

"Judge Wilkerson: And let you object, and let the record show your objection, and let the witness answer the question, and let the record show in each case your motion to strike.

"Mr. Adcock: Very well.

"Judge Wilkerson: So that it will all be before the Court when it comes down for final determination. I think that is the quickest way to get it.

"Mr. Adcock: Very well.

5900 "Mr. Blackman: Now, Mr. Hoyt, in Defendants' Exhibit X-236, comparison is made of Bell System bonds of certain grades with bonds of corresponding grades of railroads, public utilities, and industrial companies. In your

opinion, does that comparison furnish any basis for determining relative marketability of the bonds dealt with?

"Mr. Adcock: Objection.

"Mr. Goldstein: We object to that.

"Mr. Adcock: May our objection go to the same line of questions

"Judge Wilkerson: The record will be made, as to the entire line of questions.

"Mr. Adcock: All right.

"Judge Wilkerson: I am doing that in order to save time. Go on.

"A. I think not."

It is an attempt, it seems to me, to compare things that are not similar. The bonds of the Bell System have a certain classification as to security, and a certain credit standing.

The other bonds in some cases are of different classes
5901 of corporations and of different rating. The security
varies, while the security of the Bell System bonds is very high. The security of a miscellaneous assortment of bonds may be high, or may be medium.

"Mr. Adcock: I want to move to strike out that portion of the answer as to bonds having certain classifications.

"Judge Wilkerson: The record will show —

"Mr. Adcock (continuing): You cannot tell what the witness is referring to.

"Judge Wilkerson: The record will show your motion."

What I referred to was this: The exhibit shows railroad bonds, public utility bonds and industrial bonds. Those are different classifications, in the character of the issuing corporation. With a railroad or an industrial bond, the measure of credit of the railroad or the industrial may be quite dif-

ferent from the measure of credit of the telephone com-
5902 pany. There is a variation in the character of the cor-
poration and there is of course a very material variation in the security behind the bonds—bonds having the same rating. In my opinion the same holds true with regard to the comparison set up with regard to X-238, X-239, X-240, X-241, X-242, X-243, X-244, X-246, X-247, X-248 and X-249.

"Q. Now, in X-250 a comparison is made between what is called the average yield on common stocks, and what is
5903 called the average yield on bonds. In your opinion, is that a proper comparison to make, to prove any facts of value in connection with the marketability of securities, or rate of return, to the American Company or the Illinois Bell?

"A. It is not.

"Q. Why not?

"Mr. Adcock: We are asking that the same objection apply to this same line of questions.

"Judge Wilkerson: Yes."

The primary consideration which is effective in determining the market value of a stock is not merely the yield on dividends paid. The earnings per share are a much more important factor in determining the market price, than the dividends actually paid. For that reason, the yield of a common stock based on the dividends paid at any particular time has far less significance than the earnings per share of the stock at that particular time. I think the same is true with
5904 regard to X-251, X-252, X-257 and X-259.

X-259 is a tabulation showing the high and low price at which American Telephone and Telegraph Company common stock sold in the years from 1901 to 1931 inclusive. And then there is another column showing the rate of dividend paid on that stock during each year. Then there is another column showing the yield of the stock at each of the high and low prices, based on the dividends paid for that particular year, and then there is another column giving the average of these two yields for each of these years. In this tabu-
5905 lation (A-260) I have taken the high and low prices of American Telephone and Telegraph Company stock for the years 1921 to 1928, inclusive, from X-259. I have assumed they were correct. Next, I have had prepared the earnings of the American Telephone and Telegraph Company per share annually calculated for those years that I have used. Then I have shown the percentage of these earnings upon the market price of the stock, the high and low of

each year. That is, I have proceeded precisely as Mr.
5906 Hammond proceeded in the city's exhibit, except that I have substituted for the dividend payments made by the company, the annual earnings per share of the company. The last column shows the average of these percentages calculated in a similar way to the average yield in the exhibit. I carry this tabulation only through the year 1928 because in the year 1929 the stock of the American Telephone and Telegraph Company sold at such a price that it indicates that the purchaser was not interested primarily in the yield of the stock at that particular time. It was, as we know, a period of enthusiastic optimism, and the stock was purchased by people who it is quite evident anticipated a return in appreciation very much in excess of the yield of the stock at the prices ruling. The yield of the stock or the dividend paid, or the dividends likely to be paid in the near future during that year,
was lower than could have been obtained on the senior
5907 obligations of the company, namely, on bonds, and it is quite evident that the purchaser of the stock during those years was not primarily concerned with the yield of the stock from the dividends paid or likely to be paid during the next few years.

(Plaintiff offered sheet marked Exhibit A 260 in evidence.)

The condition that I have described as existing in 1929
existed to a substantial extent in 1928 also at the time
5908 when the stock sold at the highest price, during 1928.

The dollars per share earned annually shown on this sheet do not include the $48,000,000 dividend paid by the Western Electric Company in 1927. They do not include the undistributed profits of the Western Electric Company. The inclusion of those figures would show a higher percentage return in the last column.

In my opinion the average percentage of return shown on this sheet does not indicate the full amount of return that would be required to finance the American Company. The price at which stock sells from time to time in the open market is no indication of what price a large block of stock would

have to be sold at in order to have it subscribed by the stockholders to whom it might be offered. When one individual sells a block of shares of a company to another individual,
there is no additional capital enlisted in the industry.
5909 On the other hand, when a company desires to attract
additional funds, for its purposes, by offering a new block of stock, then there is enlisted further capital for that particular corporation. For instance, in 1930, the American Telephone and Telegraph Company offered, as I recall it, over $250,000,000 worth of stock at par. Naturally, the stockholders who subscribed for that stock did not at the time the stock was first offered, have on deposit, $250,000,000. Many subscribers must have sold other securities in order to exercise their subscription rights. Other stockholders must have arranged to go into debt to take up their shares of the stock. The price at which an additional large block of stock may be issued by the company is invariably, I believe, below the price at which the stock may have been ruling just prior to the time of the offer.

"Q. Now, Mr. Hoyt, referring to Exhibit X-229, you find there an average worked out for the Bell System, for cost of its bond money, of 5.62 for the years 1921 to 1931, and
5.44 for the years 1923 to 1931,—does that fact fur-
5910 nish any indication as to what rate of return is necessary to attract capital to a venture such as that of the American Telephone and Telegraph Company?

"Mr. Goldstein: We object to that question.

"Judge Wilkerson: He may answer the question subject to the objection. There will be the same arrangement about the record."

The exhibit shows that the average cost of bond money for the Bell System was approximately 5.5 per cent. The average from 1921 to 1931 was 5.62; the average from 1923 to 1931 was 5.44. This indicates that if the bond money, having in mind the fact that the bond debt of the company is less than one-quarter of its total assets—if its bond money cost it about 5.5 per cent, it indicates to me that in order to obtain

all of the money needed, the balance having been derived by the issuance of stock, the total return on all capital invested in the enterprise would have to be approximately 8 per cent, inasmuch as the risks and hazards undertaken by the stock purchasers were of course very much in excess of the risks taken by the bondholders, who had a first lien on the
5911 property in an amount representing a very small proportion, a very moderate proportion, of the total assets.

Cross-Examination by Mr. Goldstein.

I had Exhibit A-260 prepared. The figures in the second column entitled "Dollars per Share Earned Annually" were provided by the Comptroller of the American Telephone and Telegraph Company. I know what the dollars per
5912 share earned annually is intended to cover. It is intended to cover the earnings of the telephone companies on the consolidated basis, showing the earnings of the subsidiary applicable to the stock of the parent corporation. It includes in other words undistributed earnings of the subsidiaries in excess of the amount actually paid by such subsidiaries in dividends to the parent corporation, excluding of course the excess of the Western Electric Company. Deduction is made for minority interests. It is, I believe, a true picture of the earning power of the stock of the American Telephone and Telegraph Company except for the exclusion of the Western Electric Company surplus earnings.

"Mr. Goldstein: Now, am I to understand that the second column in 260 covers--comes from CR-53, is that cor-
5913 rect?

"Mr. Blackman: Yes, I understand that is the source."

If I were getting a true picture of the earnings of the American Telephone and Telegraph Company, I would take the earnings and the undistributed earnings from all of the subsidiaries. I omitted the undistributed earnings of the

Western Electric Company and its subsidiaries, simply because it seemed to be a custom of the company to treat that as an investment, and not as a telephone operating prop-
5914 erty. They include in their earnings, in that particular company, only the dividends received by the American Telephone and Telegraph Company. From an investment standpoint, if you were to figure the value of securities as having a bearing on the price, the investor would take into account also the fact that there were additional earnings that the American Telephone and Telegraph Company had that it did not disclose in its earnings statement.

"Q. So that you would consider all of the profits of the Western Electric Company, and all of the profits of all of the subsidiaries of the Western Electric Company, and their sub-subsidiaries.

"A. I would give consideration—

"Q. Is that correct?

"A. (Continuing): —to the fact that that was in effect, an understatement of the earning power."

A-260 is really not a full statement of all of the earnings. It is just a partial statement. The footnote that it
5915 does not include the dividend of $48,000,000 and the undistributed profits of the Western Electric Company; that is the undistributed profits of each year.

"Mr. Blackman: I understand there is no objection to Exhibit 260.

"Mr. Goldstein: None at all."

(The document was thereupon received in evidence, marked Plaintiff's Exhibit A-260.)

5916 F. M. WILLIAMS, recalled as a witness on behalf of the plaintiff, having been previously duly sworn, further testified as follows:

Cross-Examination by Mr. Goldstein.

June 30, 1932.

On direct examination I spoke of the trend shown on page 2 of Exhibit X-13, and Mr. Sloan's trend with respect to installation cost of equipment specifications, as not being comparable. They are not comparable in the following respect: I understood that Mr. Sloan took the equipment as it was shipped originally, and carried it on from year to year on the same basis. We prepared our trend information on the basis of the manner in which the installation work was being done, year by year.

5917 R. H. GREGORY, recalled as a witness on behalf of the plaintiff, having been previously duly sworn further testified as follows:

Cross-Examination by Mr. Goldstein.

June 30, 1932

"Q. Mr. Gregory, on direct examination you spoke of notes payable as not being properly deductible even if they were for short periods, and you said these notes payable were not given for merchandise. If the notes payable had been given for merchandise would they be deductible?"

I think the notes payable would be deductible if they were for a short period. If they were for merchandise over a long period of time I would question whether they would be deductible. The difference there would be the question of the length of time.

5918 Now, suppose we gave a note to a bank for 30 days, to pay taxes, or to provide money to pay taxes, or to pay payrolls. I would not deduct that note because at the

particular period when we were making bank loans, or borrowing from banks, it was more or less of a continuous process; we were paying them off in some months, and then we were borrowing in other months; and I think it is perfectly fair to take the average condition outstanding, on that particular item.

The reason why I would not make any deduction for the notes payable was that the money represented by them was included in the business, and at the risk of the business. I think the loan for temporary working capital and the note which is given for merchandise, and the merchandise used in the business are both at the risk of the business. The
5919 determining factor is more the time element, and also the risk; they are both at the risk of the business. By
5920 "time element" I mean if the time element is a month or so, I would say that would be considered more as a current payable, and deductible; but if it is more than a month, if it was a continuing process of borrowing money from the banks, the average condition of such a situation could be considered properly as money invested in the business and at the risk of the business.

Exhibit A-253 is entitled "Information submitted to counsel for the City of Chicago March 14, 1932, to June 15th, 1932". That is in the same form as, and a continuation
5921 of, A-73. The same sort of condition applying to A-253 with reference to the various items would apply also to all of the items I furnished; that is some of them were made up specially, some of them were already prepared, and some of them had been prepared for other cases.

5922 Gregory's Exhibits 1 and 5, referred to in the correspondence and motions in this case are the same as Exhibits A-77 and A-79 in this case.

I was asked regarding Defendants' Exhibits X-294 and X-295, and I gave the financial history of the Western Electric Company up to 1920. In 1915 there was outstanding $15,000,000 aggregate par value common stock of the Illinois Corporation. Of the $15,000,000, $6,250,000 had been
5923 paid in in cash from 1881 up to 1915. The total capital

and surplus at the end of 1915 was approximately
$40,000,000. The New York Corporation paid for the assets
of the Illinois Corporation. It paid to the stockholders
5924 150,000 shares of 6 per cent preferred stock of the New
York Corporation and redeemable at 120.

The fact is that a man who was a stockholder in the Illinois Corporation and owned one share of stock in the Illinois Corporation received therefor one share of preferred stock
5925 of the New York Corporation and one share of the common stock of the New York Corporation. He received it for the surrender of that stock. The New York Corporation turned over to the stockholders, for each share of common stock in the Illinois Corporation, one share of preferred stock and one share of common. That preferred stock was redeemable at $120. In 1917 the New York Corporation issued again $15,000,000 worth of preferred stock and it was subscribed for at par. That was likewise redeemable at $120 per share.

In 1920, thirty million dollars of preferred stock was retired
at $120 per share and two hundred thousand shares of
5926 common stock were issued at $180 per share.

I said that the exchange was made on March 9th under two separate resolutions. One resolution called for the redemption of the preferred stock at 120 and the other for the issuance of the common stock to the common stockholders in the ratio of 4 shares to 3. I spoke yesterday of the effect of that transaction as merely being a transfer, and not a cash redemption, and not a transaction of the purchase of the stock. I was speaking from the point of view of the Western Electric Company and I was speaking also from the point of view of the American Telephone and Telegraph Company. The American Telephone and Telegraph Company had something like 297,000 shares of preferred stock,
and they received in payment therefor the common
5927 stock without the payment of or transfer of one dollar
in cash.

I do not know the accounting procedure followed by the American Telephone and Telegraph Company in connection

with this transaction. I have never seen the books, or any records of the American Telephone and Telegraph Company bearing upon this transaction. So I have no knowledge how the American Telephone and Telegraph Company treated the transaction.

5929 I prepared Exhibit A 254. The information for this exhibit was obtained from various sources. The principal information was obtained from the records and files of the National Association of Cost Accountants. It was
5930 also obtained by telephone and from consultation with various representatives of different companies whose names are listed on this statement.

"Mr. Goldstein: We want to note an objection to this exhibit on the ground that the sources from which it is taken, are hearsay, and there is no way we can check them.

"The Witness: It is quite generally known, Mr. Goldstein, that a standard cost system is used."

I got this information from the files of the National Association of Cost Accountants, and I also got it from direct contact with the comptrollers or accounting officers of the various companies, by telephone. The National Association of
5931 Cost Accountants is an association of cost accountants, which has in its membership representatives of most of the manufacturing companies in the United States. It holds annual meetings and discusses various problems in connection with cost systems in the manufacturing business. I think they publish a list of the members. These names were taken from the files in their possession. I did not do that myself but my representatives did go to their files. Now, in just what form they found that information, I am not in a position to say at this time.

5933 The Association is located at New York. I do not know whether they have files in Chicago similar, or not. These files that we looked at, were in New York.

"Judge Wilkerson: Well, now, let me say, if you press your objection, and you make application to the Court
5934 to issue a subpoena for the officers of this association

to bring in their books and papers—if you press it, I will do that.

5935 Mr. Thompson: I understand, Mr. Goldstein, that your witness, Mr. Hagberg is a member of this Association."

5936 (The Court stated that if the city had any difficulty about verifying the correctness of this exhibit it might renew its motion to strike.)

I spoke of the profit on the International Western Electric Company's sale being related to profits to 1882. I am
5937 familiar with the agreement for the sale of the International Western Electric Company to the International Telephone and Telegraph Corporation which is identified as Defendants' Exhibit X-68. I am familiar with the agreement of October 1, 1925 between the Western Electric Company and the International Western Electric Company. (Defendant's Exhibit X-68-A.) I am familiar with the franchise that was given to the International Western Electric Company under these agreements, to make use of the inventions of the American Telephone and Telegraph Company and the Western Electric Company. I took all of the facts
5938 into consideration in my answer in so far as they are relevant to the point at issue.

I spoke of a claim which we made to the Internal Revenue Department in connection with the Field Examiner's inspection in 1930. I have a copy of that claim here. I do not know anything about any refusal of this document to Mr. McCann by my department; I do not think he ever asked for it. I know of a request for correspondence with the Internal
5939 Revenue Department. This is not correspondence. It was the claim made to the Field Examiner while he was right in the office. I did not consider that as coming within that request. If he had asked me for the claim, I would have been very glad to give it to him.

5942 (The above mentioned document was identified as Exhibit A-261 and was received in evidence. The Court held that since counsel for the city had called

for the production of said document it was in evidence. Defendants moved that the oral testimony of the witness be stricken because it was based on a written document.)

5943 I spoke of the surplus adjustments of the 88 companies and stated that there was a certain effect produced by that. I have here no working papers upon which my conclusion was based. All of the working papers in that connection are simply the comptometer records, if available, of the adding up of the figures on defendants' exhibit.

5944 What we did was to add the plusses and minuses together, to get the net result, and figure out the percentage to the investment which was shown on the exhibit (I think it was A-85). That is, I took the adjustments, and added them, or subtracted them, as the case may be, whether they were red or black, for the five-year period, lumped those together and then related them to the consolidated investment for the five-year period.

5945 I spoke of the Western Electric Company having paid actual cash for the good will of the Teletype Corporation. It paid the cash to the owner of the stock of the Teletype Corporation at the time of the purchase. The owner at the time was the American Telephone and Telegraph Company. The American Telephone and Telegraph Company as I previously testified in detail paid for that stock by the issue of 150,000 shares of American Telephone and Telegraph Company stock, for 150,000 of the Teletype Corporation stock.

In connection with the 88 companies (Exhibit A-85), I think that in every case where good will appeared I deducted it in computing the net investment.

5946 I do not know whether the good will in any one of those cases was paid for by the stockholders to other stockholders.

5947 I examined X-51, X-52, X-55 and X-88. If the heading "Net profits per Exhibits A-77 and A-79" is correct on these exhibits, as I assume it is, there is no adjustment then to any of the profits shown in my exhibits.

I did not personally examine all of Mr. McCann's exhibits bearing upon the Bell and non-Bell profits, but it was done under my jurisdiction. I have seen Exhibits X-55 and X-88, where the headings appear, "The Investment Adjusted" in one column and "The Profits Adjusted" in another column.

5948 As far as the mathematics of these two exhibits is concerned, that is the additions and subtractions, I have no criticism; that is, of the particular profit columns, and so on. I am not talking now about the relations or percentages at all, nor the methods, at all.

I spoke of the 1925 cash deduction by Mr. McCann. I stated that the Western Electric earned 5 per cent. This 5 per cent was on the cash items that were included in the amount. I don't carry in mind how much it earned on the cash alone, but it would probably be the prevailing amount allowed by banks at that time for money on deposit.

5949 CR-714 of the Western Electric, which is X-200, does not show all of the cash and cash items. As far as cash is concerned it shows the rate of interest received on all the cash of the Western during 1925.

Mr. McCann deducted not only cash, but the cash items as well. This twenty million dollars he deducted was cash and cash items. My criticism of his deduction and his inclusion of 2.5 per cent interest is based upon my understanding that what he deducted was cash and cash items in the amount of twenty million and not cash alone.

5950 I criticized one of Mr. McCann's exhibits where he had combined Chrysler and another corporation to show the turn-over. I stated it had no application to A-77 and A-79 and A-80. What I was talking about is the turn-over for the various classes which we discussed at some length in March. They were the three classes, telephone apparatus, lead-covered cable, and special commercial products or appliances, as you have described them. When I said on direct examination, yesterday, that the turn-over was the same for Bell and non-Bell business, I did not have in mind all the telephone apparatus (including commercial products) sold to Bell customers, on the one hand, and all the telephone

apparatus (including commercial products) sold to non-Bell customers, on the other hand. I had in mind telephone apparatus by itself, and special commercial products, or
5951 appliances, in another class by itself. I treated them by separate classifications.

I spoke of Mr. McCann overstating the profits of the Bell business for the earlier years by a million and a half, because of something that he had done with reference to pension accruals. That million and a half was over a period of years prior to 1925. The composition of that million and a half by years is as follows: In 1916, $62,000; in 1917, $103,000; in 1918, $82,000; in 1919, $109,000; in 1920, $255,000; in 1921, $213,000; in 1922, $265,000; in 1923, $363,000; in 1924, $30,000.

The aggregate is $1,482,000. I used the round figure of
5952 a million and a half dollars.

In connection with A-256, "Average Notes Payable": the Western Electric, in its income account in its annual reports, treats interest on loans made to subsidiary companies as income. I treat only the interest and whatever dividends are received as income. All there is, of course, on loans in the way of income is the interest. The only income that we show from loans is the interest paid by the
5953 subsidiary to the Western Electric Company; that is the only possible income that can be obtained.

I spoke about delivering to the defendants in December a consolidated statement with a notation that it was temporary, and that it was subject to check. The document which I delivered in December was similar to A-84, and contained only three lines, in addition to the heading. One entitled, "Net profits", and the other, "Average investment", and the other, "Per cent return on investment". Exhibit A-84, and the sheet which I gave defendants in December covered the consolidated earnings of the Western Electric and all of its subsidiaries. It covered all of Western's subsidiaries for the period from 1916 to 1931, inclusive, with the year 1931 on an eight months' basis, raised to a twelve months' basis.
5954 Those subsidiaries included not only the American subsidiaries, but the foreign subsidiaries and the Canadian

subsidiaries, to the extent that we owned an interest. The underlying papers on this consolidated statement were in the hands of our auditors until about February 11, when it was turned over to representatives of the defendants.

When, in connection with D-61 I spoke of 85% of the information having been made available to defendants, I meant that the information for the period from 1916 to 1931 was made available, and the profits of that period represented 85 per cent of the profits of the entire period.

5955 "Q. You spoke of some document having been copied by our representative?

"A. Yes.

"Q. Where were you on May 6, 7, 8 and 9, Mr. Gregory? As a matter of fact, you were in New York?

"A. Yes; I got out here on the 13th.

"Q. Yes.

"Mr. Thompson: Is it denied that that was copied?

"Mr. Goldstein: Well, I certainly do not intend to have the record show as it now stands, and I would like to have the witness on because the delivery of those documents have something very important attached to them. When the documents were delivered, and the representative came to my office in connection with that, we wrote the letter that the information was not what we wanted. Now, the record as it now stands would seem to appear that we got everything we wanted, so Mr. Gregory's statement is on hearsay, and I would like to have somebody who will give the whole transaction.

"Mr. Thompson: Do we have to waste the time of the Court, if you admit that your representative did make a copy of the information?

"Mr. Goldstein: I will admit that the representative 5956 made a copy of the letter which is referred to in our Exhibit X-344, and is the document referred to in the letter of May 31, 1932, addressed by me to Mr. Bracelen; if you will stipulate to that I am perfectly agreeable to have the record stand as it is.

"Mr. Thompson: Let's see it.

"Mr. Goldstein: That refers to the same matter.

"Mr. Thompson: Yes. Well, we will see about that later. There is no use stopping now about it.

"Mr. Goldstein: All right; I just wanted to know.

"Mr. Thompson: I know you got the copies, and if necessary, I will call the witness.

"Mr. Goldstein: All right. But I want to show that the document that I was referring to—that Mr. Gregory has referred to, is a document that was delivered here in Chicago, that Mr. Gregory knows nothing about excepting by hearsay.

"Judge Wilkerson: If he knows nothing about it, why ask him about it?

"Mr. Goldstein: But he made the statement it was delivered. I will have the answer stricken, as being based on hearsay.

"Judge Wilkerson: Do you know anything about it?

"A. Yes, I do know something about it."

5957 I was here May 13th. As I recall, to the best of my recollection, we first sent to defendants a statement analyzing the data by years, which they said was not what they wanted. Then they asked for the underlying data back of that. And I was in Mr. Thompson's office at the time when we decided to send that document over to them and give them a chance to copy it. I know that it went over to them. Now, as to whether it was copied or not, I wasn't there, I was not present when they copied it. I know it was sent to them for the purpose of copying it.

"Q. Yes, but you testified it was copied. We ask the answer be stricken unless we can get a stipulation as to
5958 what the facts are.

"The Witness: I know you wanted to copy it, and I presumed you did copy it.

"Mr. Goldstein: There are a lot of things I wanted and didn't get. I ask it be stricken, unless we can stipulate that document is the document referred to as of May 31, 1932, because the record as it now stands, qualifies that letter.

"Judge Wilkerson: The matter is too complicated for me

to rule on without examining the record. The record will show your motion. You may call it up in argument, hereafter.

"Mr. Thompson: The statement, I believe, is not an accurate statement, but I will check it."

5959 Exhibit A-257 shows on its face that it covers the periods 1916 to 1932, inclusive, and 1923 to 1932, inclusive. The last column is for the entire period, for each of the periods. That is on the first line, for 1916 to 1932, and the second line, 1923 to 1932.

"Q. In connection with your statement as to the option, Mr. Gregory, did you know about a license contract given on May 24, 1927, or an extension of a license contract in which the American Telephone and Telegraph Company participated, to the Automatic, on the day when the money was paid over to the Electrical Research Products?

"A. I am not entirely familiar with that, but I know there is such a license contract in evidence.

"Q. You did not take that into account in any of your calculations in connection with the exhibit X-257, did you?

"A. The basis for the calculation has been testified
5960 to, and is also stated in the explanation of the adjustment.

"Q. And is limited solely to the considerations given there, and not to all of the considerations in connection with the option contract?

"A. I think it is clearly stated in the record.

"Q. All right. You spoke of working reserves. Mr. Gregory, when you set up your working reserves, you set up the full amount, do you not, as an operating expense, without taking into account that between the time when you set it up and the time when you use the money, the money might earn an income?

"A. Why, we set it up currently, from month to month."

We set up whatever we think is a proper amount of accrual, and charge that amount against the cost of sales. If we need, say, $100,000 a year from now, we set up one-twelfth, of the full amount that we were estimating at that particular
5961 time. The next month it might be a different amount.

If we estimated that we would need $1,200,000 twelve months from now, we would take one-twelfth of $1,200,000, or $100,000 currently.

Re-direct Examination by Mr. Thompson.

When the Western Electric Company of New York was organized it took over all of the assets of the Western Electric of Illinois and issued stock in payment for those assets.

Mr. Goldstein has spoken about the purchase by the Western Electric Company from the American Telegraph and Telephone Company of the stock of Teletype Corporation, which had been acquired by the American Telephone and Telegraph Company from the owners of that stock. The
5962 American Company issued 1[illegible]000 shares of its stock. The market value of that stock at the time of the issue was $215 a share.

We did not carry cash as large as $20,000,000 currently in our business. When I talk about twenty millions of cash being deducted in 1925, that means cash and cash items.

Exhibit A-257, which has been introduced in evidence, about which I was asked on my cross-examination, merely contains a brief statement of the facts in connection with each one of the controverted points set out on this exhibit, and in preparing this I took into consideration not only the facts set out on this exhibit, but all the facts I have previously testified to.

"Mr. Thompson: That is all. We offer in evidence
5963 Exhibit A-261, which is the document which was produced by Mr. Gregory while on the witness stand, at the request of Mr. Goldstein.

"Mr. Goldstein: With reference to some of these exhibits, there are the same objections to them that we had to the earlier Gregory exhibits, of which these are merely extensions or modifications, and we would like to follow the same procedure here as we followed with reference to the other exhibits; we will preserve formal objections, and place them with the exhibits, and the other side can state theirs."

(Which said document, so offered and received in evidence, was marked Plaintiff's Exhibit A-261.)

5965 WILLIAM H. EGAN, called as a witness on behalf of the plaintiff, having been first duly sworn, testified as follows:

Direct Examination by Mr. Thompson.

June 30, 1932

My name is William H. Egan. I reside in New York City. I am senior accountant in the firm of Arthur Young and Company, who are accountants and auditors with offices in New York City, Chicago and other cities. I have been engaged in the accounting business 18 years. Prior to the war I was with other accounting houses and in commercial practice. Subsequent to the war, from 1919 to 1926 with Patterson and Ridgeway, Certified Public Accountants of New York City, and since that time as a senior accountant with Arthur Young and Company.

The firm of Arthur Young and Company has audited 5966 the books and records and certified to the published accounts of the Western Electric Company for the five-year period ending December 31, 1931. That firm has also audited the books and records of the following subsidiaries of the Western Electric Company for the period of time indicated: Electrical Research Products Inc., for the period 1927 to 1931, inclusive; Graybar Electric Company, Inc., for the year 1927 to 1928; Bell Telephone Laboratories, Inc., for the four years ending December 31, 1930; Manufacturers Junction Railway, for the five-year period ending December 31, 1931; 395 Hudson Street Corporation, for the five years ended December 31, 1931; Weco Realty Corporation for the years 1930 and 1931; Weco Corporation for the years 1930 and 1931, and Teletype Corporation for 1931.

These audits were made in the regular course of business. All the work of auditing the books and records of the Western Electric Company, and of its subsidiaries to which I 5967 have specifically referred, was done under my personal direction and supervision.

In my opinion, from the audits which I have made in the regular course of business, the books and records of the Western Electric Company during the five years ended December 31, 1931, and the books of the subsidiaries which I have named during the period for which I audited them, were correctly and accuratedly kept and the entries made therein in accordance with sound accounting practice.

The firm of Arthur Young and Company was employed for the purpose of examining certain exhibits which had been prepared by Mr. R. H. Gregory, Comptroller of the Western Electric Company, which have been introduced in evidence in this case and for the purpose of checking the figures contained in these exhibits against the records of the Western Electric Company and its subsidiaries and in the case of certain exhibits, against figures contained in Poor's and Moody's Manual, for the purpose of determining whether these exhibits correctly and accurately set forth the figures which
5968 they purport to show. I have a list of the exhibits which I examined there.

(Which said list was identified as Plaintiff's Exhibit A-262.)

Exhibits A-75, A-77, A-78, A-79, A-80, A-81, A-84, A-85, A-86, A-87, A-88, A-89, A-90, A-91 and A-83, are the exhibits which I checked and audited as against the records of the Western Electric Company. The firm of Arthur Young and Company was employed to do this work about December, 1930.

"Mr. Adcock: If the Court please, I don't see how this is rebuttal testimony. It does not rebut any questions we have raised.

"Mr. Thompson: Yes, it does.

"Mr. Adcock: How?

"Judge Wilkerson: What is the objection? To the
5969 whole line of questioning?

"Mr. Adcock: Yes.

"Judge Wilkerson: Well, I suppose because Mr. Gregory is an employee of the company.

"Mr. Thompson: Beg pardon?

"Judge Wilkerson: I say, I don't know on what theory it is offered. I suppose it is offered on the theory that is followed in a large number of instances, that he is employed by an interested party, and this is offered as being made by somebody who is disinterested.

"Mr. Thompson: Of course, and then when they are challenging, we are here to prove the accounts are correct.

"Mr. Goldstein: We have not challenged any accounts.

"Judge Wilkerson: For instance, when we have a receivership here, when a property goes into the hands of a receiver, they have an accounting department, they have a comptroller, but the first thing is to have the books audited—usually, I would say, the first thing is to have the books audited by some disinterested firm of accountants at the time that the Court takes the property over. Nobody may be assailing the accuracy of it, but it is the act of an interested party.

"Mr. Thompson: His testimony will go somewhat
5970 further than that in rebuttal too.

"Judge Wilkerson: But on that theory, it is perfectly proper."

In addition to the time spent on our regular auditing work, from December, 1930, until about the middle of May, 1931, we worked continuously on this job with an average of 10 to 12 men. We again took up the work about the middle of November, 1931, and have worked practically continuously until the present time, with an average of about four men. In checking Mr. Gregory's exhibits, I had access to and used the same books and records which he used in the preparation of his exhibits.

"Q. I hand you now Exhibits A-75, 77, 78, 79, 80, 81, 83, 84, 85, 86, 87, 88, 89, 90 and 91, and ask you to state whether you did in fact supervise the checking of these exhibits against the records of the Western Electric Company and its subsidiaries, and in cases wherever referred to, to Poor's and Moody's Manuals, against these manuals?

"A. I did."

5971 We have audited for the five years ended December 31, 1931, the books and records of the Western Electric

Company at its head office in New York, at its Hawthorne and Kearny plants, and at its New York and Chicago distributing houses. We have also audited its previously mentioned subsidiaries for the various periods referred to. For the other distributing houses and subsidiaries of the Western Electric Company, we examined records made to the Comptroller of the Western Electric Company, in the regular course of business, which are the same reports testified to by Mr. Gregory. For the years 1916 to 1926, not previously audited by us, we have examined the books and records that were available at its head office in New York, at its Hawthorne and Kearny plants, and at its New York and Chicago distributing houses. For the other distributing houses and subsidiary companies, we have examined reports made to the Comptroller of the Western Electric Company in the regular course of business, which are the same reports testified to by Mr. Gregory.

These exhibits which I have listed, correctly and accurately reflect the entries on the books of the Western Electric Company and its subsidiaries, where they related to Poor's
5972 and Moody's Manuals, or the figures in those manuals which the exhibits purport to show.

I have checked the allocations and apportionments made by Mr. Gregory and used by him in his Exhibits A-77 to A-80, both inclusive, of net profits and average investment as between Bell and non-Bell business. I think they were correct and proper methods and that the use of them will give a substantially accurate result. Sales as shown on these exhibits are actual sales and were verified by us from the records and the books of the company. The company allocates expenses not included in the shop cost of sales, directly to Bell and non-Bell business where possible, but expenses which cannot be directly allocated, are pro-rated on the basis of shop cost of sales. This distribution was reviewed by us.

In my opinion, the methods used for making these vari-
5973 ous allocations and apportionments are correct and in accordance with sound accounting practices.

I have seen Exhibit X-35 which was prepared by Mr. Hagberg and which has been introduced in evidence in this case.

This exhibit shows for a number of groupings of years, between 1916 and 1931, and for the entire period, that the net shop variations and other adjustments which were made to basic gross profits by the Western Electric Company in order to make apportionments between its Bell and non-Bell business were the result of certain gross adjustments, plus and minus, which were much larger when added together, than the net adjustments. I am familiar with this fact. In connection with the propriety of the company's method in this connection I believe that the apportionments are substantially correct and that it would have made no appreciable difference if the gross variations, plus and minus, had been apportioned.

This is true, in my opinion, because in the main, these
5974 apportionments relate to telephone apparatus and lead-covered cable which are manufactured by the company, both for its Bell and non-Bell customers in the factories and on the same machines and are of the same general type and character.

In my check of Mr. Gregory's exhibits I found two items in which I would make a change and I found other items which I would treat in years, differently from what they are treated in his exhibits.

First, in 1924, an appropriation was made for pension fund purposes, of $2,000,000 and charged entirely to the Bell business. $120,000 of this should have been assessed to the non-Bell business and I would now make this change if I were recording the facts. This would result in increasing the Bell profits for 1924 by $120,000.

5975 Secondly, patents had been charged, up to four or five years ago, to reserve for contingencies instead of being included in the cost of sales. Such patents, in my opinion, are a proper charge against cost of sales, and this would result in decreasing the Bell profits on the Western Electric if so treated.

Third, in 1928, the Western Electric Company made a reserve for machinery depreciation of $2,000,000 representing the difference between annual depreciation rates of 7½ and 10 per cent. This was entered on the books for 1928. As

a matter of fact, this reserve was applicable to the years 1924, 1925, 1926 and 1927, and I would so record it now, if I were making new apportionment between Bell and non-Bell business. I would make no difference in the amount to be recorded, but would merely distribute it among different years.

Fourth, for the period 1924 to 1927, the Western Electric Company made an extraordinary reserve for depreciation of $8,233,000. This was to cover a loss in value for the years 1917 to 1927 in its physical plant. I think that this item would not affect the profits, but I would decrease the average investment by reducing the cost value of the plant.

Fifth, with respect to federal taxes, the company
5976 bases its yearly results on accruals. There is no other way in which it can do this. If I were re-stating Mr. Gregory's exhibits, I would use the actual payments instead of accruals which would make a difference of about $200,000.

In case changes were made other than the extraordinary reserve for depreciation for the period 1916 to 1931, it would reduce the return on investment on the Bell business one-tenth of 1 per cent. For the period 1923 to 1931, it would increase the return one-tenth of 1 per cent. In regard to the change in regard to handling extraordinary reserve for depreciation, I figured that that would increase the Bell profits in the neighborhood of two-tenths to three-tenths of 1 per cent.

5977 JOHN R. TURNER, recalled as a witness on behalf of the plaintiff, having been previously duly sworn, testified in rebuttal as follows:

Direct Examination by Mr. Bracelen.

June 30, 1932

Defendants' Exhibits X-190 and X-191 which were
5978 introduced as part of the testimony of Mr. Tholin were sheets obtained from my office. X-190 shows the maximum net junk salvage that may be obtained from three typical stations constituting 96 per cent of the total stations in

Chicago, if all of the potentially usable piece parts within the junked instruments are re-used. For the three stations shown on X-190, the range is from approximately 16 per cent to 25 per cent. X-191 shows for the same three typical sets the range of junk salvage that is obtained when no piece parts are re-used. That represents the minimum junk salvage, and ranges from 1.6 per cent to 2 per cent for the three instruments shown.

In reference to Exhibit X-190, only certain of the parts are ever re-usable as salvage. Take the sub-set, for
5979 example, in the first station shown on X-190, the potentially re-usable parts within that sub-set are the ringers, gongs, condenser and induction coil. The balance of the items are always junked. So that if we do get any salvage from the balance of the items, it will be merely junk material salvage, and not re-use salvage.

I arrived at 5 per cent junk salvage for the station apparatus as follows: Of course, my problem was confined to these limitations of 1.6 per cent to 25 per cent for the complete range of possible salvage from junked instruments and compositing the three sets on the basis of their relative quantity in service, reduced the range from 1.9 to 21 per cent, being a composite of the three instruments in each class. My problem, of course, was to determine to what extent piece parts are re-used, and I had several conferences with the supervisors in charge of recovered instruments and their disposal. I found that this percentage of re-use varies from year
to year. It is dependent upon several conditions, of course,
5980 conditions of excess stock, conditions regarding the specifications of junking for certain types of piece parts and so forth. We found that the range of re-use of piece parts from year to year would be from approximately 10 per cent to 25 per cent, so that in order to determine the net junk salvage for the complete station, I determined what we would get if 10 per cent of the potentially re-usable parts were re-used, and if 25 per cent were re-used. That resulted in an average net junk salvage ranging from 3.8 per cent to 6.7 per cent, a very slight range of variation. I used 5 per cent

as a reasonable estimate between those two slightly differing extremes. Furthermore, the purpose for which this determination of net junk salvage was used, that is, in the determination of the over-all life, does not require any greater accuracy than that range of 3.8 to 6.7, because an extreme variation in that range would not change the depreciation rate for station apparatus.

"Q. Proceeding now to the point to which you have just reverted, the over-all life of station apparatus, the over-all life as determined upon the basis of 2 per cent junk salvage on the one hand and 5 per cent junk salvage on the
5981 other, you will recall that Mr. Tholin gave some testimony upon that point?

"A. I do."

Mr. Tholin has testified that he studied the over-all life of station apparatus, using 2 per cent junk salvage as compared with the Company's use of 5 per cent, and that he found the over-all life to be an approximation in the neighborhood of 21 years. In support of this statement Mr. Tholin offered a work sheet, which was identified as Plaintiff's Exhibit A-234. In his re-direct examination he explained that this work sheet was incomplete. Later that day, after his testimony, I took the matter up with Mr. Tholin, and he then gave me the rest of his computation; he gave me the information over the telephone on the same day that he testified, I believe, June 20. He explained to me the method he had employed in arriving at this approximation of 21 years that he referred to. He stated that his method consisted of comparing the number of junked stations developed by the 2 per cent
5982 method for the year 1925 with those developed by the Company on a 5 per cent basis. This gave him a decrease in the number of junked stations of 3½ per cent. He then applied the 3½ per cent to the over-all life found by the Company for that particular period of years, which was 1911 to 1929, in which we found the life to be 19.77 years. That resulted in Mr. Tholin's finding the life to be 20.46 years, a difference of 69/100 of a year. That was the information furnished me by Mr. Tholin.

The method which Mr. Tholin used as I have just stated it is not a correct method of computation. I made a correct computation substituting 2 per cent for 5 per cent. I made this computation before I knew what period Mr. Tholin had used as the basis for his comparison, so that I used the turn-over period ending with the next year, that is, the year 1930, instead of the year 1929, which Mr. Tholin used. I found that where our original studies based on a 5 per cent junk salvage resulted in an average life of 19.3 years, if we substituted 2 per cent salvage for the 5 per cent, we would obtain a life of 19.5 years, a difference of 2/10 of one year.

5983 I have testified on my examination in chief in this case that in determining the average over-all life of units of property of a class I do not employ fractions of years, but round out the figure to an integer number of even years.

The turn-over period on the basis of the 5 per cent net junk salvage was 17.8 years. On the basis of 2 per cent junk salvage, it is 18 years.

I have prepared an exhibit to show the method for computing the annual rate of depreciation for station appa-

5984 ratus, and also to show on the second sheet of that exhibit the depreciation accounting.

(Which exhibit was identified as X-263.)

The first sheet of the exhibit shows the various factors involved in the determination of the annual rate of depreciation for station apparatus, which I have covered, I think, fully, in the previous testimony. The only item on page 1 that I would like to call specific attention to is the last line, which shows that upon final retirement there is an investment loss of 95 per cent. As far as the second page of the exhibit is concerned, I am sure that is self-explanatory, showing, as it does, the depreciation accounting treatment for an average station on an assumed cost of $10 per station.

That shows the accounting for the entire over-all life of the apparatus which consists of four lives in one place, on the average. As to the 5 per cent salvage upon final retirement,

the Company intends by the accounting shown here to

5985 recover a 95 per cent loss on that investment in station

apparatus between its original installation in service and its final retirement from service.

I was cross-examined by Mr. Goldstein concerning the unit method of depreciation accounting as contrasted with the group method used by the Company and in that connection in my re-direct examination I applied the two methods to the data for the Kedzie office shown in one of my exhibits, and showed in that testimony that the rate under the unit method tended to be lower in the earlier years of that office, increased year by year throughout the life of the office, became higher in the later years as compared with the uniform rate applied by the Company under its method over the whole life of the office. Since I gave that testimony I have made an investigation to determine what would have been the increase or the decrease in the depreciation expense of the Company
5986 for each year and for the total period 1923 to 1931, both inclusive, for the entire Chicago property if the depreciation rates had been determined on this alternative unit method instead of the method which the Company actually used. The results of that investigation show that had the Company determined its rates throughout this period on the basis of the unit method instead of the method they did use, the depreciation expense would have been lower in 1923 by $146,000 (I am giving round figures); in 1924, $125,000; in 1925, $61,000; that under the unit method the depreciation expenses would have been greater in the following years in the amounts which I shall state: 1926, $26,000; 1927, $195,000; 1928, $383,000; 1929, $353,000; 1930, $107,000; 1931, $91,000. Under the unit method, the depreciation expense for the entire period 1923 to 1931, inclusive, would have been greater by $823,000 than the amount determined by the Company method, or group basis.

5987 I have already testified that the Company periodically reviews the depreciation rates which it is applying to the several classes of plant for the purpose of making any changes that may be then indicated by the review. Referring now to the part of the testimony given by Mr. Hill in this

case, at the time of making each review of the rates we exclude from our calculations all buildings and central offices previously retired, and include in our calculations all buildings and central offices that have been placed in service since our last review. So that our re-examination of the rates, whenever we make them, is based solely upon the buildings and central offices at that time in service.

Mr. Hill in the course of his testimony on cross-examination (appearing at page 4644 of our transcript of the testi-
mony) made the following statement: "Exhibit A-125
5988 shows that the same depreciation rate was applied over periods of three or four years without change, during which time certain buildings were dropped and certain other buildings were added without any change in the depreciation
rate. Now, where that occurs, the discrepancy to which
5989 I have referred will creep in." The facts are these: there were no buildings added or retired during the three-year period that the rates were in effect from 1921 to 1923, inclusive. For the period 1924 to 1927, inclusive, a period of four years, during which time we did not change the rates as Mr. Hill states, we retired in the year 1924 the South Division Barn, a very small investment that could not and did not affect the composite depreciation rate for from 30 to 40 buildings. In November, 1924, we placed in service the Superior Dial Building. I have investigated to determine whether the composite rate of 2.5 per cent which was in effect at the time, would have been changed on January 1st of the following year, 1925, had we reflected within it the Superior Building, and I find that we would have made no change; the one building would not change the composite rate.

The next building that was added was Merrimac, in June, 1926. There, again, under the theory of changing our rate
annually, we would have changed our rate on January
5990 1, 1927, had we been following that practice, and had it been necessary to change the rate. I find that, taking both buildings, Superior and Merrimac, which would come into that calculation as of January 1, 1927, that the combined

effect of the two buildings would not have changed the composite rate of 2.5 per cent.

Now, that is all that we had during that period that would require, under the other theory of changing rates as of January 1st, any change in the rate, if it was in sufficient magnitude to compel a change. We had, during the year 1927, one building retired, Randolph, in June, 1927, and we had one dial office, namely, Longbeach, added in December, 1927. We did review and revise our rates on January 1st, 1928, so that those buildings would not be involved in this discussion of the effect of infrequent changes of rates upon the composite rate.

In that statement I have covered every building that was retired during the period, 1924 to the end of 1927, and every building that was added during that period.

5991 In cross-examination, Mr. Goldstein asked me what would have been the effect of taking into that rate in 1923, five millions of dollars of dial equipment installed, going into service June 30, 1923, and I estimated that the difference in money would have been something over $50,000. I have since made a computation, and the correct figure is that, had we included the dial in the rate on the basis of using an average balance of investment during the year,

5992 the depreciation expense would have been $50,085 less.

I have computed the effect of taking the average investment in the various types of central office equipment during each year involved in this case, 1923 to 1931, inclusive, as compared with taking the January 1st investment each year. I find that had we used the average balance for the year, in 1924, the depreciation expense would have been $29,571 greater. I find that for all subsequent years, 1925 to 1931, inclusive, there would have been no change in the depreciation expense between the two methods.

5993 In Exhibit X-178, Mr. Tholin compares the percentage of salvage recovered on central office equipment retired in 1929 with the percentage of salvage used in the Company's depreciation rate in 1919. It is an incorrect comparison for the reason that the 20 per cent net salvage estimated in 1929.

was for 35 offices. Of course, it is always recognized by the engineers in charge of depreciation that we do not anticipate getting the same exact salvage from every central office. Mr. Tholin has compared the salvage obtained from the retirement of 2 of the 35 central offices which happened to go out in 1929, 10 years later than the estimate.

To make a proper comparison of actual experience with the salvage estimated in 1919, it is necessary to find out what average salvage we have actually obtained from all of the central offices included in that original estimate. Now,
5994 of course, these offices have not yet been retired, so we cannot find out what the actual salvage is, but I have determined what the average actual salvage has been for 8 of the 35 offices which have been retired to date, and I have determined what the estimated salvage is on the average, that is from our recent depreciation studies, for these surviving offices of the original group of 35. I have that in the form of an exhibit.

(Which was identified as Exhibit A-264.)

I made, a moment ago, a statement that might be misconstrued. I said Mr. Tholin made the comparison with the two offices I named which happened to go out 10 years after the estimate. I did not mean to imply that the buildings went out 10 years later than they were expected to go out. I
5995 meant that 10 years after the salvage of the 35 central offices was estimated.

This exhibit gives all of the offices that were in service in Chicago on January 1, 1919, with respect to which the Company then made the estimate of 20 per cent average salvage for the group to be recovered whenever they might be retired in the future. I have shown in the succeeding columns all of those offices which have been retired, the year in which each one of them was retired and the per cent of salvage actually realized by the Company upon retirement.

5996 L. G. WOODFORD, a witness on behalf of the plaintiff, in rebuttal, having been previously duly sworn, testified as follows:

Direct Examination by Mr. Bracelen.

June 30, 1932.

Exhibit A-203 is an exhibit identified by me when I was on the witness stand before, and offered and received in evidence.

Counsel read the following question and answer from witness' testimony on cross-examination:

"Q. A-203 is a comparison of the Chicago area with the entire area of the other companies. It is not a comparison of the Chicago area, we will say, with New York City or with another large city, it is on the whole Company, is that right?

"A. It is a comparison of rates for the Chicago area with the rates for the entire areas of the other companies."

5997 While that statement was correct, and I do not wish to make any change in it whatever, it is a fact that the property of certain of the companies with which the comparison is made in Exhibit A-203 consists so largely of property in what may be called large cities that that fact should be pointed out for whatever it is worth. There are three companies shown in Exhibit A-203, all or the major portion of whose property is in a single city. Those three companies are the Chesapeake and Potomac Company of Washington, D. C., the Cincinnati and Suburban Company, whose property is largely located in the city of Cincinnati, and the Southern California Telephone Company, whose property, up to and including 1929, was largely in the city of Los Angeles. In 1930 the Southern California Company acquired a considerable amount of property from the Pacific System in the southern part of California outside of the city of Los Angeles, so, for the years 1930 and 1931, the Southern California Company had

5998 a great deal of property other than in a single large city, but for prior years, practically all of its property was in the city of Los Angeles.

Now, I would like to point out in that connection, however, that in the comparisons shown in this exhibit for the Southern California Company, they should be considered as comparisons between the Chicago rates and rates for the city of Los Angeles only for the years 1927, 1928 and 1929. Prior to 1927 the same rates were used by the Pacific System for the Southern California property as were used for the balance of the Pacific System's property. The Southern California Company was a part of the Pacific System.

In this case, the plaintiff has been able to offer in evidence separate depreciation rates for the city of Chicago, notwithstanding the Company's property extends generally throughout the state, and some part of it in the northwest corner of Indiana. There is only one other instance in the Bell System in which a company determines depreciation rates sepa-
5999 rately for a single city, that is, New York City. That has been true for New York City only since the beginning of 1929. Prior to that time the New York Telephone Company had only one set of depreciation rates for its entire property. Its entire property extended throughout the state of New York, and, in fact, for an early part of that period, into New Jersey and Connecticut.

I have prepared an exhibit which shows a comparison of the Chicago rates by classes of property with the New York City rates for the three years (1929, 1930 and 1931) for which it has been possible to make that comparison.

(Which said document was identified as Exhibit A-265.)

I think the exhibit is pretty largely self-explanatory.
6000 Briefly, it shows for each of the years, 1929, 1930 and 1931, first, the investment, the book cost of the Chicago property as of the end of the year; second, the rates for New York City by classes of property, and the amount of depreciation expense which would result from the application of those rates to the Chicago investment.

Next, the Chicago depreciation rates and the amount resulting from the application of those rates to the same investment.

At the bottom of the sheet for each of the years is shown the composite rate which would result from the application of

the rates for each of the cities to the Chicago property. That is as of the end of each year.

6003 (A cover page of the Bell Telephone News was marked Plaintiff's Exhibit A-266 for identification.)

W. K. KRUSE, recalled as a witness on behalf of the plaintiff, in rebuttal, having been previously duly sworn, further testified as follows:

Direct Examination by Mr. Thompson.

June 30, 1932.

6004 Plaintiff's Exhibit A-266 is the back cover page of the Bell Telephone News, for June, 1932, containing an advertisement which at the bottom says: "American Telephone and Telegraph Company". I am familiar with the publication, the Bell Telephone News. That publication is a monthly publication of the Illinois Bell Telephone Company circulated largely among its employees.

The American Telephone and Telegraph Company furnished the plate from which this advertisement was printed at the request of the Illinois Bell Telephone Company.

This publication is issued once a month. The cost to the Illinois Bell Telephone Company for the paper and printing of the cover page of this monthly magazine averages about $50 an issue, or $600 per year. It was published during the entire period 1931.

6005 I have read the testimony of Mr. James G. Wray in regard to the amount of compensation to the Chicago area for use of State area property included in Exhibit A-54. The amount of return allowed to the State area on the Chicago property used for State area purposes, and State area property used for Chicago purposes, was computed at the rate of 8 per cent on the book cost of such property. In order that the return computed on the State area property used for Chicago area purposes would be on a basis comparable to the return computed on the Chicago area property used

for State area purposes, it was necessary that the book costs be used, because there were no reproduction cost figures available for the State area property. The last appraisal of the State area property involved was made in 1919.

I have made a computation of the increase in the compensation figure had it been based on reproduction cost, 6006 other than book cost. I start on the assumption that the same ratio between book cost and reproduction cost new less depreciation in the Chicago area, would apply to the State area. The compensation to Chicago for the use of State area property in the several years would be affected as the result of this computation as follows:

For 1923 the amount is $50,617; 1924, $47,519; 1925, $49,283; 1926, $30,759; 1927, $15,738; 1928, $13,206; 1929, $19,520 and 1930, $2,046. Up to this point it would have been an increase. For 1931 it would have been a decrease of $5,913. The effect on the rate of return shown on my various exhibits would be very slight, if these increases for the years 1923 to 1930 and the decreases for 1931 were given effect; in fact, in some of the years it would not be reflected at all in the percentage which I have shown on Exhibit A-53. On that exhibit 6007 the percentages were carried two places beyond the decimal, and for the years 1927 to 1930 it would not have affected those percentages at all. For 1923 it would have increased it .03 per cent; 1924, .02 per cent; 1925, .03 per cent, and 1926, .02 per cent.

With reference to insurance premiums, it was necessary in figuring the net compensation to Chicago for use of State area property, to estimate such items instead of using the actual premiums because individual insurance policies are not carried by the Company on the property involved. All property in the City of Chicago, with a few minor exceptions, is carried on a blanket insurance policy, and it was necessary to estimate the portion of the premiums paid on the blanket policy, which were applicable to Chicago property used for State area purposes.

Mr. Wray in his testimony, on page 5457 of our transcript, stated that, "The taxes were computed by applying to the

book cost a rate which is obtained by dividing the amount paid by the taxable value, which in every instance is higher than the book cost, and this would necessarily result in too low a rate, and, consequently, in too small an amount
6008 of compensation". Those are not the facts. In every year the tax percentage factor was computed by dividing the taxes for each parcel of real estate and buildings, by the book cost of such land and buildings. For the years 1923 to 1929 the actual tax payments were used. For 1930 and 1931, estimated taxes were used. These estimated taxes were determined by applying to the assessed taxing valuation for each of the years, an estimated real estate tax rate for the taxing districts involved.

With respect to concession telephone service to State area employees residing in Chicago, to which Mr. Wray referred in his testimony, I have made an estimate of the possible additional compensation to Chicago on account of additional messages not considered in Exhibit A-51. The amounts are as follows: For 1923, $3,125; 1924, $2,481; 1925, $2,952; 1926, $3,518; 1927, $3,932; 1928, $5,268; 1929, $6,327; 1930, $6,772; and 1931, $6795. When I was figuring compensation to
6009 Chicago for these concessions, so-called, which are really free telephone service furnished to State area employees residing in Chicago, I figured it on the commercial rate because the Company does not keep a cumulative record of those calls. To arrive at these estimates which I have just given, I applied to the number of employees' concession telephones, the average annual exchange revenue received from our subscribers, and applied that by classes of service. To that computed amount I applied the concession rate allowed the employees, and from that I deducted the amount shown in Exhibit A-51, and that remainder is the figures that I have quoted. In view of the circumstances, I would say that is a fair way to arrive at an answer to this question. We have no other information, no actual data, and I think it gives a very fair picture of the additional messages.

6011 W. K. KRUSE:

Direct Examination (Continued) by Mr. Bracelen.

(Sheet entitled "Illinois Bell Telephone Company—Chicago Exchange; comparison of depreciation and amortization of landed capital based on book cost, and reproduction cost new", identified as Plaintiff's Exhibit A-267.)

The dollar figures shown on this sheet are all shown in the exhibits and testimony that have already been introduced, or they are directly computable from figures that have been introduced.

Those figures, in the first column of figures headed "Based on book cost", are the amounts which were accrued on the Company's records during each of the years for annual depreciation on its plant and equipment. Those figures are shown in Exhibit A-49 exactly as they stand in this column.

6012 The next column, "Based on reproduction cost new", are identical figures taken from one of the previous exhibits; one of the other exhibits in the 50 series, I do not know just the exact number. The third column is just the difference between these two.

Regarding the next three columns, under the heading of "Account 340, Amortization of Landed Capital":

The amounts shown under the heading; "Based on Book Cost", are the amounts accrued on the Company's records and are included in Company's Exhibit A-49, as a part of the item designated as "Other expenses and deductions".

In the next column headed "Based on reproduction cost new", are the figures which appear in one of my exhibits; I think it is Exhibit A-55; and the next column is the difference between those two. The last three columns are

6013 merely the sum of the figures appearing in the other columns.

The purpose of this exhibit (A-267) is to bring together on one sheet the figures which will show, as the exhibit does show

in the final column, the dollars of difference, year by year, for the period involved in the case, between the Company's depreciation and amortization charges based on book cost, and corresponding figures based on reproduction cost new.

I have another tabulation prepared by me, which is now identified as Exhibit A-268, entitled "Illinois Bell Telephone Company,—Comparison of rates of return for Chicago area, with all Associated Operating Companies, including Long Lines". For the most part, as indicated on the exhibit, the figures have been taken from exhibits already in the case. Outside of the computations, all of the figures were taken from various exhibits already in the record. Column (C) in
6014 the upper half of the exhibit for each of the years 1923 to 1931 shows rate of return upon average fixed capital for all of the associated companies in the Bell System, including the Long Lines; and Column (e) in the lower part of the exhibit shows the comparable rate of return for the Chicago area of the Illinois Bell Telephone Company, under the rates which have been in effect throughout the period. Column (f) shows the rate of return for the Chicago area under the rates which have been enjoined, the rates which are involved in the lawsuit. Line (g) shows the percentage of the estimated reduction under rates in suit, as shown on Line (d), is of the balance available for return under our present rates, as shown in Line (b). In other words, it states the reduction in earnings under the rates in suit, if they had gone into effect, stated as a percentage of the Company's net earnings.

6015 This comparison between the entire system, in the upper half of the sheet, and the Chicago area in the lower half of the sheet, is a comparison between earnings upon the entire business, intrastate and interstate, toll and exchange. The comparison here is not made and cannot be made upon the basis of the intrastate business in both cases, excluding the interstate business, because, while we have figures available for the Chicago area showing the interstate business, we do not have figures for the other associated companies, including the Long Lines, showing their interstate and intrastate business separately.

The books are not kept that way, and we have not attempted to make any separation. We have it in the Chicago Case for the intrastate business separately, because, as an incident to this lawsuit, it was necessary to make that very elaborate and difficult separation but, of course, the thing is not done in the Bell System excepting under the necessity of rate cases. It is not kept or done as a regular thing.

The next sheet (marked Exhibit A-269) deals entirely with the Chicago area total intrastate business only. The last line (g) shows the reduction under the rates in suit as a percentage of the net earnings under the present rates. That is, the reduction in earnings, under the rates in suit as compared with the net earnings under the present rates. That is to say, the actual net earnings as shown by the books in the latter case. This exhibit deals with intrastate business only for the Chicago area throughout.

(Plaintiff offered these exhibits, introduced during examination of Mr. Kruse, in evidence.)

6017 *Cross-Examination by Mr. Goldstein.*

In connection with my testimony as to the effect on net compensation to Chicago, had the figures been based on reproduction cost:

I computed the 8 per cent on reproduction cost less depreciation shown as a result of Mr. Redmund's testimony. That is, that proportion of reproduction new that was deducted for the purpose of calculating the rate of return in A-53. I did not include construction work in progress, going value, material and supplies, or working capital.

6018 (It was agreed that during this period there has been carried on the back cover page of the Bell Telephone News, for each month, an advertisement substantially similar to the one contained on Exhibit A-266.)

In the calculation of the compensation upon Chicago property for downstate area, I included that portion of the property that had interest during construction—interest, taxes and engineering.

6019 In Exhibit A-268, "All Companies" includes the Chicago area.

As to Exhibit A-269: I have intrastate rate of return; that means intrastate exchange and intrastate toll both; total intrastate business.

As to A-268 and A-269: I give effect only to one change in the present rates, and that is the reduction under the rates in suit. That is the only reduction I have made.

Re-direct Examination by Mr. Bracelen.

That reduction is shown here as taken from Exhibit A-49.

6020 *Re-cross Examination by Mr. Goldstein.*

For 1923, my reduction for rates in suit is on a 12-month basis, computed on an annual basis to show the effect on an annual basis.

July 1, 1932

6026 "Mr. Thompson: If your Honor please, by agreement with Mr. Adcock, the record may show the following stipulation:

"It is agreed by the parties that when Mr. R. H. Gregory was on the witness stand in March, he furnished to Mr. Goldstein, at his request, Exhibit D-61, showing the net profits from the non-Bell business of the Western Electric Company for the years 1881 to 1927; that a letter from Mr. Goldstein to Mr. Bracelen, dated April 21, which is identified as
6027 Exhibit X-....., relates to Exhibit D-61; that on May 5 the plaintiff furnished to counsel for the defendant a copy of Exhibit A-227; that the letters of May 7, 16, 17 and 31, and June 2, 1932, contained in Defendants' Exhibit X-344, relate to the underlying data in connection with Exhibit D-61, about which Mr. Gregory testified on June 29 and June 30, 1932.

"It is also agreed that the defendants made a copy of Exhibit X-229 on May 31, 1932."

WILLIAM H. EGAN, recalled as a witness on behalf of the plaintiff, having been previously duly sworn, further testified as follows:

Cross-Examination by Mr. Goldstein.

July 1, 1932

The only audit reports which have been issued by my firm in connection with the audits of the Western Electric Company, or the Electrical Research Products Company, are the certificates on the back of the annual reports of the Western Electric Company where Arthur Young's name appears.

6028 When I stated:

"The apportionments are substantially correct between the Bell and non-Bell. It would make no possible appreciable difference if the gross variation plus or minus had been apportioned, because in the main these apportionments relate to telephone apparatus and lead covered cable which were manufactured by the company both for its Bell and non-Bell customers, in the same factory, on the same machine, and are of the same general type and character."

I meant that the same general type that is sold to both the Bell and non-Bell customers is made on the same machine.

That is, the same identical item, if sold to both Bell

6029 and non-Bell is made on the same machine. I am not expert enough on the manufacturing to know whether a switchboard lamp and a panel frame are made on the same machine, but I know the general structure of the company is such that the same goods that are sold to the Bell and non-Bell are made on the same type of machine. That is the identical item, for instance a switchboard lamp, is sold to Bell and non-Bell customers. It is only in that aspect that I am referring to it when I say that they are of the same character. I had that in mind at the time of my answer.

6030 JAMES CAMPBELL BURTON, called as a witness on behalf of the plaintiff in rebuttal, having been first duly sworn, testified as follows:

Direct Examination by Mr. Thompson.

July 1, 1932

My name is James Campbell Burton. I live in New York City. I am a partner of the firm of Arthur Young and Company, Accountants and Auditors. I have been connected with that firm since the year 1921. For a period of eight years prior to that I was out of the accounting business, but prior to that eight years I had eight years before in the accounting business. During the eight years that I was out of the accounting business, I was in a department store.

I am acquainted with the Western Electric Company.

6031 The firm of Arthur Young and Company has done work for the Western Electric Company in auditing its records and the records of its subsidiaries, and in checking certain exhibits which have been introduced in evidence in this case. That work has been done under my personal direction and supervision. I know of the work which has been done and I have approved the results obtained. I supervised the work that has been done, have instructed the various accountants on the work, and have approved the findings made by them.

I have heard the testimony of Mr. Egan in this court room yesterday and today, in connection with the work of Arthur Young and Company in the auditing of the Western Electric Company's books and those of its subsidiaries and in auditing and checking certain exhibits of Mr. Gregory. I agree

6032 with Mr. Egan's testimony. I have knowledge of the facts as to which he testified.

(No cross-examination.)

W. K. KRUSE, recalled as a witness on behalf of the plaintiff, in rebuttal, having been previously duly sworn, further testified as follows:

Direct Examination by Mr. Thompson.

July 1, 1932

In connection with the net compensation to Chicago for the use by the State area of Chicago property, a statement was made by Mr. Wray in connection with the maintenance charge for the building space occupied in Chicago by 6033 State area employees. I have looked into that matter.

We have found that the maintenance cost in the downtown group of buildings is higher per square foot than the average cost of all buildings in Chicago on a per square foot basis. The employees of the State area who occupied space in Chicago area buildings were housed in those downtown buildings. We estimate that the maintenance cost in the downtown buildings would not exceed 40 per cent of the average cost of all buildings in Chicago on a square foot basis. In my exhibit I have included $10,755 per annum, 6034 which was computed on an average for all buildings.

Now, increasing that amount by 40 per cent, we find that the compensation figure would not be increased more than $4,000 per year.

(No cross-examination.)

ALLAN B. CRUNDEN, recalled as a witness on behalf of the plaintiff in rebuttal, having been previously duly sworn, further testified as follows:

Direct Examination by Mr. Blackman.

July 1, 1932.

Referring to Defendants' Exhibit X-111, I am familiar with the manner in which the figure of 59.53 per cent, 6035 being the last figure on that page, is obtained. The percentage figure of 63.39 on page 4 of Exhibit X-108

directly determines the 59.53. It is used essentially in the capacity of a divisor. Being used as a divisor, the percentage on the last line of Exhibit X 111 goes up. It goes up as the 63.39 would go down. That is inevitable from the arithmetic of the proceeding. It has nothing to do with these particular examples, but it would be so in any comparable computation.

6036 This 63.39 is obtained by dividing the last figure in the first column of figures on page 4 of Exhibit X-108, being $135,740,062.82 by the first figure in that column, $719,964,600. The first figure on the exhibit is the $719,000,000 plus and the other is the last figure on the exhibit in the first column. The first figure is called capital stock and the last figure is the sum of all of these figures representing capital stock, capital stock premiums, capital stock installments, funded debts, and loans from associate companies.

As a matter of elementary arithmetic, if the capital stock remains the same and any of the other figures that follow it are increased, the percentage attributed to the capital stock decreases. So if the capital stock premiums were in-

6037 creased, the percentage figure that we are dealing with would decrease. If the surplus were increased, that percentage would decrease. The decrease in that figure would increase the result which is obtained on Exhibit X-111 for the per cent return on investment, expressed in per cent of return to American Telephone and Telegraph Company stockholders on their average capital stock investment. The method followed on these pages dealt with, as a matter of mathematics, inevitably results in showing a greater return to the stockholder from the same amount of dividends the more he pays for his stock, provided he pays direct to the company for it. If you deal with all the stock, or with a part of it, along the lines of this exhibit, it would be the same. That is, the

6038 mathematics are the same. It is a fundamental principle that brings that about.

Exhibit X-112 takes certain figures representative of the actual results to the American Company of furnishing telephone instruments to the Illinois Bell Company, Chicago

division, and it includes a showing of per cent return on investment ranging from 6.83 to 6.93 in different years during the period 1923 to 1927; and it builds up these percentages to 25.65 to 30.71 per cent. That is done by two processes; first, an additional return on investment is introduced in an amount equal to the difference between, first, the estimated cost, per books, to the American Company of providing instruments for the Chicago area, and second, an estimate of what that cost would be if the company were allowed depreciation
6039 and 8 per cent return upon current reproduction cost of instruments, less actual depreciation. The second process is that the return on investment is finally converted into a return to stockholders of the American Telephone and Telegraph Company on their proportionate investment in the capital stock. This conversion process is on the same basis as was referred to in the record in connection with Exhibit X-111.

The comparison which I have referred to is, in my opinion, a comparison of things that are not comparable.

Exhibit X-115 relates to telephone instruments used in Chicago, and purports to make a comparison between, first, certain data that the Company presented at the 1929 hearing, referred to in column 1 of this exhibit; and second, certain data that is presented at the present hearing; and third, the actual experience of the Company as presented at the
6040 present hearing. The data presented at the former hearing were provided by a witness who testified as to what it might cost the Illinois Company to furnish telephone instruments, if it had no arrangement for instrument service with the American Company. In other words, the data had to do with an arrangement which was not in effect in 1923 and could have been in effect in that year only by hypothesis.

The data referred to in the second column of Exhibit X-115 refer to data presented at the present hearing, purporting to show what would be a fair allowance for instrument service in Chicago for the year 1923 if it were proper to base the allowance as to depreciation and 8 per cent return upon the

1923 reproduction cost of the instruments, less the then existing depreciation. The third column of the exhibit has to do with the estimated cost of the Chicago area instrument services for the year 1923. The side heading on line 7, "Actual Return on Investment Obtained", is therefore unsuitable. If has no application to the first two columns and as regards the third column, it has reference to return on book investment.

6041 Consequently, the exhibit should not be read as it might easily be read from mere inspection of the column headings, that the Company presented one showing during the 1929 hearing and another during the 1932 hearing, both of which were at variance with the actual experience as evidenced from the bookkeeping for the third column of the exhibit.

"Mr. Thompson: Your Honor, plaintiff withdraws its objection heretofore made to Exhibits X 220 and X 221, which are trust agreements between the American Telephone and Telegraph Company and the Bankers' Trust Company, trustee that is Exhibit X 220; and X 221 is a blank form of agreement between the Bankers' Trust Company, trustee, and the various Bell associate companies.

"In that connection the plaintiff also offers in evidence Exhibit A-269, which is an agreement between the Illinois Bell Telephone Company and the Bankers' Trust Company, trustee, dated December 31, 1927, and it is agreed by the 6042 parties that the agreement set out in Exhibit A-269 has been continuously in force since the date of its execution.

"Judge Wilkerson: Very well."

(The document was thereupon received in evidence, marked Plaintiff's Exhibit A-269.)

6043 I have completed my statement with regard to Exhibit X-115, except to call attention to the fact that this exhibit converts the so-called percentage of actual return on investment obtained into a per cent of actual return on the net investment converted to average return to American Telephone and Telegraph Company stockholders. The return here

referred to was not the actual return and the stockholders did not get any such return, and the method of conversion is, in any event, made on the same basis as was referred to by Mr. Rainwater in connection with Exhibit X 111, the method of which was described by me today. The comparisons that were set up there, in my opinion, were not comparisons of comparable things.

Exhibit X 124 shows data regarding the sale of telephone instruments by the American Company at December 31, 1927, to the licensee companies. It shows in parallel that there was no profit on the sale of instruments to the Long Lines
6044 Department but there was a profit on the sale of the instruments to the licensee companies. The Long Lines Department is a part of the American Telephone and Telegraph Company, and that company could not make a profit on a sale to itself. The caption "Sale Price", as applied to the Long Lines, is, therefore, unsuitable, and it is not consistent to so refer to the transaction in question.

Exhibit X 127 purports to show average return to American Telephone and Telegraph Company from dividends on its investments in capital stocks of licensee companies converted into average returns on their investment in the American Telephone and Telegraph Company. This is arrived at in the following manner: the procedure may be illustrated by reference to Illinois Bell Company and the year 1930, where the percentage of 11.24 per cent is shown. It first appears that by dividing average book value per share of Illinois Bell stock in the hands of the American Telephone and Telegraph Company into the 8 per cent dividend, the yield to the American Telephone and Telegraph Company is 7.67. From this is subtracted the average cost of funds to the American
6045 Telephone and Telegraph Company in that year of 6.25, leaving a balance of 1.42.

On Exhibit X-108 it appears that the American Telephone and Telegraph Company has outstanding capital stock, premiums, surplus, capital stock installments and payables of various kinds aggregating $2,746,000,000 plus, and that the capital stock alone is $1,585,000,000 plus, or 57.53 per cent.

Dividing the 1.42 previously mentioned by 57.53 gives a product of 2.46. To this is added the average rate of dividend paid by the American Telephone and Telegraph Company on its capital stock in this year, 8.78, making a total of 11.24, which is expressed as a percentage of 11.24 per cent, purporting to represent the total return to stockholders of the American Telephone and Telegraph Company per $100 of American Telephone and Telegraph Company capital stock invested in Illinois Bell Telephone Company.

Exhibit X 108, from which the American Telephone and Telegraph Company capital stock figures for 1930 above mentioned were taken, also shows that the American Telephone and Telegraph Company had outstanding $200,000,000 plus of capital stock premiums and $366,000,000 plus of surplus.

6046 The manner in which that return of 7.67 is jumped up to 11.24 is due primarily to taking account of these capital stock premiums and surplus on the wrong side of the equation. Had these items been greater in amount, and the remainder of the items, that is, the capital stock and outstanding indebtedness remained constant, the computed return of 11.24 per cent would be still higher. That is one of the factors I have already referred to in connection with Exhibit X 111. Subfracting the 6.25 from 7.67 purports to leave a profit, but, of course, it is not the ordinary use of the term "profit". That is in no sense a net profit, in the usual sense in which the term is used.

6047 Exhibit X-128 sets down for each associate company a yield to the American Telephone and Telegraph Company on the book value of its capital stock holdings in each of the associate companies of the Bell System. The yield is calculated in terms of the percentage of the amount received during the year in dividends to the American Telephone and Telegraph Company's book value of capital stock. There is subtracted from such yield the percentage cost of funds to the American Telephone and Telegraph Company in the same year, bringing down a balance which is entitled "Per cent of profit to American Telephone and Telegraph Company".

The same criticism which I have applied to the word "profit" in the previous exhibit applies to this one.

The exhibit (X-128) bears the general heading "Profit on Investment of Capital Stock of Licensee Companies",
6048 and the investment referred to is the book value of holdings of the American Telephone and Telegraph Company. No consideration is given in this exhibit as to whether the existing investment of the American Company in the stock of these companies is worth more or less than the book value at which it is stated on the American Company's books. Neither is any consideration given to any profits of the associate operating companies which were not divided in the years for which computations are shown. There is also no consideration given as to the manner in which the undivided profits of the associate companies might be affected because dividends were not earned in some of these years.

Exhibit X-129 purports to show percentage of profit to American Telephone and Telegraph Company on stock holdings in Illinois Bell in comparison with percentage of profit to American Telephone and Telegraph Company on stock holdings in other licensee companies. The comments made with reference to Exhibit X-128 as to the manner of calculating the profit ratio and the use of the word "profit" also apply to this exhibit.

6049 Exhibit X-132 contains the same inaccuracy in respect to average loans which has been referred to in the record in connection with Exhibit X-151. It also combines what purports to be profits to American Telephone and Telegraph Company on its stock holdings with losses to American Telephone and Telegraph Company on loans to associate companies to bring down a net profit to the American Telephone and Telegraph Company. This procedure commingles two very different things and does so in varying degrees with respect to the numerous different companies involved. The relation of the American Company to the associate companies evidenced by its capital stock holdings is an investor relationship, and the book value of the stock investment is not the same as the worth of the investment.

The loans made by the American Company to the associate companies are advances, a class of relatively short-term financing, and the American Company in connection with them sustains a credit relationship to the associate companies. In some cases the associate companies paid no dividends; in some cases they obtained no loans. The ratio 6050 of outstanding loans to book value of American Telephone and Telegraph Company stock holdings varies considerably in the different companies and in the same company at different times. It appears to me the exhibit does not use the words "net profit" in the ordinary sense of the term.

Exhibit X-133 purports to show the average return to the American Telephone and Telegraph Company from dividends and interest on its investments in licensee companies. The purported investment to which reference is made in this exhibit is merely the sum of the American Company's book value of stocks of associate companies owned and the outstanding loans which it has made to licensee companies. Also the sums used in the preparation of this exhibit are incorrect, because based on the erroneous figures for loans referred to in the record in connection with Exhibit X-131.

Exhibit X-134 takes the average return to the American Telephone and Telegraph Company from dividends and interest on stocks and loans in associate companies and 6051 converts such average return into a so-called average return to stockholders of the American Telephone and Telegraph Company on their investments in capital stock of the American Telephone and Telegraph Company. The average loans used in these computations are incorrect for the reason pointed out in connection with Exhibit X-131, and the method of stepping up the investment to the stockholders is incorrect for the reason pointed out in connection with Exhibit X-127. This exhibit contains three of the matters which I have previously referred to as incorrect.

Exhibit X-135 contains incorrect figures representative of average loans and it also confounds the investment relationship and creditor relationship of the American Telephone and

Telegraph Company with the Illinois Bell. On line 5 of this exhibit items are starred, indicating losses. The fact is that the American Company received substantial returns on its investments referred to on this line and the existence of red figures is due solely to the peculiar manner of computation adopted in the exhibit.

6052 Exhibits X-142 and X-143 cover the same general subject matter, except that on X-142 dollars are shown, whereas X-143 deals with percentages and with dollars per average station.

Using Exhibit X-143 and the Indiana Bell Telephone Company for convenience of illustration, a purported showing is made that because the Indiana Company was yielding a low return during the early years of the period involved in the present Illinois Bell rate case, the amount of the license contract payment from the Illinois Bell to the American Company should be reduced or the license payment of the Indiana Bell should be increased to 18 per cent. The derivation of the 18 per cent is as follows: In Exhibit X-130, under the heading "Indiana Bell Company" and year 1923, the amount required to equal average Illinois Bell Telephone Company return on capital stock is shown as $863,796. In Exhibit X-137, the above amount is added to the outstanding loans of the American Telephone and Telegraph Company to the Indiana Bell Company upon an incorrect average quarterly rating, and the figure is thereby increased to $1,111,829.

6053 On Exhibit X-142, the American Company's license revenue from the Indiana Bell for the year 1923 is shown as $363,065. Dividing $1,111,829 by $363,065, the product is 306.24 per cent, which is stated on Exhibit X-143 to be the amount required to equal average Illinois Bell Telephone Company return on investment expressed as a percentage of the Indiana Bell Telephone Company's license payment. Adding 100 per cent of the Indiana Bell Telephone Company's license payment to this percentage, we obtain 406.24 per cent, and 406.24 per cent of the 4.5 per cent license contract payment in effect in 1923 produces a hypothetical license contract

payment requirement of about 18 per cent for the Indiana Bell Company.

Exhibit X-144 contains percentages which are the same as those shown opposite the words "Balance available for additional return to American Telephone and Telegraph Company" as shown on Exhibit X-143 just referred to.

Exhibits X-148, X-149, X-150 and X-151 are related exhibits. Exhibit X-148 confuses a showing of total costs for the American Company with a showing of costs assign-
6054 able to licensee companies. The comparison in this exhibit is misleading because the line "Balance available for additional return to the American Telephone and Telegraph Company" does not set forth the same elements under the heading of totals as it does under the heading Illinois Bell Company.

These exhibits assume that inasmuch as the American Company's presentation of its total costs under the license contracts includes losses on loans made to the companies for temporary financing, whereas the costs which the company has assigned to the Chicago area include no such costs, it is fair to compare the Chicago area costs, exclusive of such losses, with the remainder of the costs of the American Company under the license contracts inclusive of such losses. This is incorrect for the reason that the losses on loans due to temporary financing were excluded from the showing for the Chicago area, not because there were no such losses, but because the Company claimed no amount under that heading and if a statement were made for any or all of the other license companies on the same basis, no claim would
6055 be therein made for such losses. That is, the effect of these exhibits is based on the fact that in Mr. Heiss' exhibits he claimed as apportioned to the Illinois Bell no part of the losses on temporary financing. The first column was the American Telephone and Telegraph Company side of the picture and it showed certain losses. I do not know what these exhibits are designed to do, but I know that they do not make a fair comparison.

Exhibit X-279 computes a percentage by dividing undivided

profits of associate companies by American Telephone and Telegraph Company book investment in stocks of associate companies plus the amount of loans made by American Telephone and Telegraph Company to such companies.

Exhibit X-280 is a companion exhibit to X-279, and takes the percentage derived in X-279 and converts it into an average return to stockholders of the American Telephone
6056 and Telegraph Company on their investments in capital stock of American Telephone and Telegraph Company. The investment of such stockholders in American Telephone and Telegraph Company stock is assumed in this exhibit to be the par value of stock regardless of capital stock premiums or surplus.

Exhibit X-285 purports to be a comparison between dividend payments of the Illinois Bell to the American Company with dividend payments of other companies to the American Company. It is just a comparison of dividend payments without regard to the earnings of the companies. It has
6057 nothing to do with earnings, as I read it. The figures that are shown on Exhibit X-131, of which we have had some discussion concerning the seven million and the twelve million, are used to develop the figures on Exhibit X-136, so any error in Exhibit X-131 is carried into X-136 by the identity of the method with respect to the matter that we have been talking about.

Cross-Examination by Mr. Goldstein.

6058 I understand that Mr. Heiss stated that you could not tag the dollar. All of the funds of the A. T. & T. go into one pot and in any calculation involving the average cost of funds of the American Company you draw the same proportion of bonds, stock, premiums, and bonded debt funds for specific investment the same as the whole.

6059 It uses that hypothesis. I do not see any connection between that hypothesis and Mr. Rainwater's exhibits. I did not find that he changed that hypothesis. He has used the same average cost of funds that Mr. Heiss has used and

the same ratio of bonded debt, premiums, and capital stock that Mr. Heiss used, applied to the total funds.

If you had $1,000, $500 of which came from credit obligations, $250 came from surplus and premiums, and $250
6060 from capital stock, you would have your total fund of $1,000 composed one half of bonded debt, one quarter of premiums and surplus, and one quarter of capital stock.

"Q. Now, suppose out of that $1,000 you took $500, and you put it into an investment in telephone instruments, and you wanted to figure what your return was on that $500, and then you wanted to divide up that return, or the return on the $500, to the return on the portion which came from capital stock. Your $500 then would be, one half came from bonded debt, one quarter would come from premiums and surplus, and one quarter would come from capital stock; and so you take your earnings on the $500, and you would deduct that portion applicable for interest on the bonded debt, and you would have the balance available for the stock, would you not?

"A. Well, answering the last part of the question, whatever earnings you would have, out of them you would provide for bond interest, and the balance would be available for return on stock.

6061 "Q. And in figuring $500 was stock, you would take one quarter of the $500 as being applicable to stock, would you not, because your total had a quarter of stock, one-quarter of premiums, and one half bonded debt?

"A. Observing the definition of stock as given in the question that is correct."

6062 If you have $1,000, and $500 came from bonded debt, $250 from surplus, and $250 from common stock, the ratio would be one-half, one-quarter and one-quarter. If you varied that $1,000 so that its composition was $1,000 composed of $500 bonded debt, $300 of surplus and premiums, and the balance in common stock, the ratio of each of them would be different to the total. Whatever the ratio is of your total funds, if you maintain the ratio, when you take a portion of the total fund and invest it in a specific investment, you

always have a proper basis of comparison between your return on the whole and your return on the part, and even though your theory about the whole may be wrong you get a consistent comparison.

6064 "Q. If the American Telephone and Telegraph Company set up a standard to show the effect of its total operations, that is, that after payment of expenses it could build ten office buildings during the year on the profits of its total operations, and you wanted to show the effect from part of its operations, if you adopted that standard of comparison, whether the part of its funds would produce a profit which would enable it to build more than the ten office buildings, you would have a proper basis of comparison between its total operations, and the part, would you not?

"A. That is equivalent to saying that if you make this assumption with regard to the ten office buildings to the total, it is then fair to assume the same thing regarding one office building."

6065 The fact that the basis of ten office buildings might not be the proper standard of comparison for prosperity as a general proposition, would not affect the comparison between the whole and the part; I would hope for equal prosperity on one building.

"Q. Now, did Mr. Rainwater do any different when he used the return to the American Telephone and Telegraph Company on its total operations, and he took the figure of return for the telephone instruments from part of its funds, using the same basis of ratio as Mr. Heiss did?

"A. No, I understand that both of these gentlemen assumed that you cannot tag the dollar."

6066 I have a quarrel with Mr. Rainwater as to whether he has made a correct computation, to get from 39 per cent to 59 per cent on the assumption that every dollar of the funds invested in telephone instruments put in by the American Telephone and Telegraph Company, had the same source, in the same ratio as Mr. Heiss used in Exhibit A-164.

"Q. Well, now, Mr. Crunden, will you please, to save time this morning—I have put down on paper the computation

which you stated to Mr. Blackman, showing—appearing in Exhibit X-127—also the method used in Exhibit X-111; and I have also put down the method by which you would arrive at the $10.44 for the year 1930, in the annual reports of earnings of the American Telephone and Telegraph Com-
6067 pany. I have also listed the source of all of the figures.

For our purposes will you please assume that these figures are taken correctly from the source stated. I am now interested in determining whether the same identical mathematical computation would be used to arrive from 7.21 for the total return of the American Telephone and Telegraph Company from all of its operations on its entire investment, to 10.44 on its stock, on its average stock outstanding, as shown in its annual reports; and comparing that method with the mathematical computations used in Exhibits X-127 and X-111; and when I have finished the questioning, I will defer cross-examination, and Mr. Rainwater will help you, and it will only take about five minutes to check the mathematics, to see whether the mathematics are the same in each of the three cases. So will you just please hold that—and that is Exhibit 438—X-438."

Exhibit X-112 is not on a comparable basis because it
6068 refers in part to actual results in respect of instruments, and then introduces calculations regarding what might be the condition if the company were getting depreciation and 8 per cent return on reproduction cost. As to whether I am complaining about the mathematics or the purpose of the exhibit: I suppose when you come down to it, I am primarily noting the language of the side headings because it says "Per cent of total return on investment" and there isn't
6069 any such thing. I am not criticizing the mathematics.

In Exhibit X-128 and the other exhibits where I talked about "profits" it is perfectly clear as to what was meant by the term "Net Profit". In reading the exhibit, you would know from reading it that it meant transferred to surplus. There was no attempt to sneak up on the company or on the
6070 Court, on that point. My criticism about it is that it is not the net profit because you haven't any profit. I am

not objecting to the definition stated there. Its just like persimmons; if you like that sort of "net profit" that is all right, take it, and God bless you.

You will have to ask Mr. Heiss whether, when, in his license contract exhibits he put in the cost of holding funds, those funds that he claimed were being held, were being held for both loans and stock. I am generally familiar with
6071 Mr. Heiss' exhibits in this case. My understanding is that the item "Cost of holding funds" as used in all of the Heiss exhibits had reference to the loans and not to the stock.

I am familiar with the item "Cost of holding funds" set up by Mr. Heiss. You will have to ask Mr. Heiss
6072 whether those funds being held by the American Telephone and Telegraph Company were to make advances, or were to make advances plus buy stock. I do not know then the purpose for which those funds were being held. Without that knowledge I can criticize Exhibit X-129 because X-129 is wrong.

If the item "Cost of holding funds" developed to be
6073 the cost of holding funds for stock purposes as well as making loans, that item of cost would not be wrong for the same reason that I have said that Exhibit X-129 would be wrong. We are talking about different things.

"Mr. Goldstein: If those funds were being held by the American Telephone and Telegraph Company, and there was a direct subscription without any loan advances, would the cost of holding those funds be a proper charge in the license contract?

"A. From the time that they decided that the company would finance through stock, until the time the money was paid for the stock, it would not have anything to do with the license contract. It would be an investor relationship.

"Q. And if the Illinois Bell in November of one year,
6074 not having any loans at all from the American Telephone and Telegraph Company, should notify the American Telephone and Telegraph Company that in the year 1924

for instance the American Telephone and Telegraph the Illinois Bell would issue some stock to the American Telephone and Telegraph Company, and the American Telephone and Telegraph Company were holding funds from January 1 of that year until the date of the subscription, you would say that the losses on holding those funds were not a part of the license contract cost?

"A. I would not be able to express an opinion on that without going thoroughly into Mr. Heiss' exhibits."

I would have to see the exhibits, and know the circumstances before I gave my opinion as to whether it would be a proper charge.

6075 "Q. I am just putting this transaction to you, that in November, 1923, the Illinois Bell Telephone Company, in its provisional estimate notified the American Telephone and Telegraph Company that in the year 1924 it would not borrow any money, but it would issue $20,000,000 of stock, and in November in October or November, 1924, it did issue that stock and the American Telephone and Telegraph Company purchased that stock.

"Now, the American Telephone and Telegraph Company held the funds from January to October, the date of subscription. Would the losses on those funds be a proper charge under the license contract?"

If the American Company in order to have that money available ten months later for the convenience of the Illinois Bell Company, were required to carry it for that time, I should say it would be. Or if there was not a firm arrangement, and it was possible for the Illinois Bell Company to change its mind and say, "We have decided we will not issue that stock; we would rather take some more advances",

6076 then, I can see that there is a connection. Even though there were no advances and even though they told them that they would take no advances during the year, they can change their minds on five minutes notice. There is no certainty that because some president ten months in advance says he thinks he will issue stock, therefore, he is going to absolutely issue the stock.

I can conceive that there might be circumstances under which even holding funds to buy stock to enter into an investor relationship, is a proper charge. But I would like to study the circumstances, because there might or might
6077 not be stock purchased.

In connection with Exhibit X-134: the American Telephone and Telegraph Company has in its possession all of the figures of actual interest paid by the licensees. It has no figures of average loans, because we do not need that in our business. Anyone by having the amount of interest,
6078 could obtain the average loans on a true daily basis by dividing by 5.88. The American Company, of course, knew what the interest was and that could have been obtained, if defendants wished it, from the books of the American Company.

6079 Exhibit X-143 is not carried into all of the other exhibits. Of course, it does not carry into all of the other exhibits.

6080 In connection with Exhibit X-148: Under the license contract all of the licensee companies do not get the right to make loans from the American Telephone and Telegraph Company. It does not set that up in the license contract. It says that the American Company will give them such aid and assistance as is within its power, in
6081 financing, or words to that effect. Actually, making these advances has been the form that much of the assistance has taken.

The American Telephone and Telegraph Company, in performing that function, has had certain losses, which Mr. Heiss shows under license contract costs for the company as a whole. The Illinois Bell, in some years, got advances from the American Telephone and Telegraph Company.

6082 "Q. Now, you say because Mr. Heiss in his exhibits in this case did not include as a charge against the payment of the Illinois Bell, these losses on loans actually made to the Illinois Bell, therefore the defendants have no right to make a comparison of the fairness of the license contract by showing that the other companies have a substantial—get

a substantial benefit, and the American Telephone and Telegraph Company incurs a substantial loss, in making these loans, is that it?

"A. I have made no statement tending to circumscribe the rights of the defendants."

I did not say I was criticizing the exhibit on that basis. I said that with respect to the Illinois Bell there was nothing included for losses on loans. That all of the losses on loans were thrown down into the total, so that you are com-
6083 paring two things that are not the same. Mr. Heiss, in the first column of his exhibit had a statement, of course, from the standpoint of the American Company. In the second column he had certain costs, which various witnesses had assigned to the Chicago area. In the second statement there was nothing for losses on loans. Now, this statement compares those two columns blandly, as if they were comparable, and you have got to study the exhibit to find out if that is the case. I am simply drawing attention to it.

My criticism is not because Mr. Heiss did not include in his exhibit any losses on loans, and that defendants included it as to the rest, but my criticism is that this exhibit compares two things that are not the same.

Now, the two columns of Mr. Heiss' exhibit are not the same, as everybody can see by looking at it. Now, here
6084 is a lot of exhibits which are as much alike as Chinamen, and I am simply taking one of these complicated exhibits, and finding out a certain fact, which I take it you and I both are in agreement on, that in this section relating to the Illinois Bell, there is no item for losses on loans, financing, but in the total there is an item and that item is the total of all those losses.

6085 *Re-direct Examination by Mr. Blackman.*

With regard to that example which was given to me by Mr. Goldstein, of the $1,000, of which $250 was represented by stock, $250 by stock premiums, and $500 by loans or mortgage investments: If the corporation had $10 available for return on the stock, and had $250 stock outstanding, you would

divide the $250 into $10, and that would give you 4 per cent. That would be 4 per cent on the stock. The return to the investor on his investment in the stock would be one-half that. The way Mr. Rainwater has figured it, it would go just the other way, and be twice that.

6087 W. F. SLOAN, a witness on behalf of the plaintiff, resumed the stand, and testified further, in rebuttal, as follows:

Cross-Examination by Mr. Goldstein.

July 1, 1932

In making up Exhibit A-243, I used the data that Mr. Cummings had put into the record. I used some other data on pole lines, of course; I found from the vouchers the number of tank-treated poles, I used that data. For cable footage, I took Mr. Cummings'. For the prices that were used as of June 30th I took Western Electric prices. I don't know how much time it took us to make up the study. We were
6088 doing so much work, after we got Mr. Cummings' exhibits; I suppose we have had them two months, or more. I have been working continuously on this and other exhibits, but not with all of our force. We had three or four men, and then we made use of some of the Company's employees in addition. The number of Company employees varied. I don't know. Some days we would have two or three and sometimes four or five. I could look up that data. Well, I would say we had, most of the time we had about three of our own people, besides Mr. Cook and myself and two or three of the Company's people, three or four.

6089 Exhibit A-249 is practically the same as the other, except that it has the additional correction for the productive hourly rate, so the same general data was used, and there we did make use of some additional data that was not contained in Mr. Cummings' exhibits. The productive hourly rate for the last six months of 1923 we had to get from the

same source that Mr. Cummings got the data for the first six months. That is practically the only difference.

Much the same general type of answer would apply to Exhibit A-251 as to the other concerning sources. That also includes specific estimate performance. I used the same general sources as I used before.

6090 Exhibit A-251 was finished day before yesterday. Exhibits A-249 and A-243 were finished some days prior to that.

6091 On the second to last page of the copy of Exhibit A-252, delivered to defendants, the last sentence, "J. G. Wray also lists the same estimate twice in two different instances on this page", appears. That should have been stricken out. The tabulations on those two pages where these words have been stricken out are based on the supposition that the duplications existed. That would not be affected very greatly, however, because one of those estimates only involved $300, and I have forgotten how much was involved in the other, but it would not change the general result of that very much. Perhaps it would change it slightly.

6092 In my testimony I stated: I have ascertained whether the poles included in this two and a half year period of Mr. Cummings' exhibit, were in part tank-treated poles. I obtained this information from the Western Electric Company invoices. All of those vouchers pertain to Chicago area only. They don't show which were placed in the Toll Pole Line Account, and which in the Exchange Pole Line Account, but the facts are there were not many poles in the Chicago area. They do not show what poles were placed at all, but they were bought for Chicago, and evidently used in

6093 Chicago. I assumed they were used in the Chicago area. There might be a variation of three or four or a dozen poles that did not go in, but if you take the two and a half year period for the purchases, it is perfectly obvious those poles were used in Chicago.

The A. N. A. cable replaced the earlier N. A. and T. A. cable about June 1, 1923; that is when it first appeared in the catalogue. The difference between the A. N. A. and the N. A.

and the T. A. cable was a detail of manufacturing. In general, they serve about the same purpose.

6094 In Exhibit X-6 Mr. Cummings did not use the productive hourly rate as of June 30, 1923. That is the point of our objection. He used it for the first six months of 1923. He used the average for the first six months of 1923. He may have thought he was using the hourly rate for the six months ending June 30, 1923, to develop the hourly rate level as of June 30, 1923, but he didn't. He took the average productive hourly rate for the first six months. He used the hourly rate for the first six months of 1923 to convert all of the gross expenditures for the years 1921, 1922 and the first six months of 1923 to that extremely low level. Not to the level as of June 30, 1923; that is the point, he didn't. He used it for the first six months of 1923, which is entirely different from the June 30th level. That is the point of our objection.

6095 He said he was developing a June 30th level, but he corrected it by—well, I will tell you how much he corrected it. He corrected it from 90.78 to 90.79 in the Pole Line Account, 1/100 of 1 per cent.

Approximately one-third of the total labor cost of setting the pole is digging the hole.

I criticized Mr. Cummings' application of trial units for main cable only to a composite group of cable consisting of main and subsidiary, and I stated as follows:

"So he applied his correction factor against all of the sizes indiscriminately, and it is, of course, perfectly
6096 obvious that the correction factor should have been applied against the size that belonged to the subsidiary group."

You would have to approximate these sizes from the records of the Illinois Bell showing which were main and which were subsidiary cable. But the way Mr. Cummings used it was entirely improper. You can approximate it very closely.

Re-direct Examination by Mr. Thompson.

In the preparation of the exhibits which were introduced during my rebuttal testimony I used nothing whatever except the records of the Illinois Bell Telephone Company and Mr. Cummings' work sheets.

6097 Reference has been made to certain types of cable which first began to be used in 1923. In Exhibits A-2 to A-10, both inclusive, I reproduced the actual types of cable that were in the plant from year to year.

6097 L. G. WOODFORD, a witness on behalf of the plaintiff, in rebuttal, having been previouly duly sworn, resumed the stand and testified further as follows:

Direct Examination (Continued) by Mr. Bracelen.

July 1, 1932.

I heard all of Mr. Turner's testimony on rebuttal. I am familiar with the basis on which Mr. Turner's studies and estimates were made to determine what the depreciation expense charges of the Company in Chicago would have been throughout the period involved in the case, if the Company had used the unit basis instead of the group basis which
6098 it did use. I discussed the general principles of the studies with him before they were made, and while they were being made. I have seen the results of the studies and discussed those with him.

My familiarity with the studies is sufficient to enable me to make a definite statement as to whether or not in my opinion the results to which Mr. Turner testified are substantially correct. I concur in the results that Mr. Turner found on his studies and estimates. As a matter of fact, I think that his statement is a conservative statement.

The unit basis which Mr. Turner applied in the study in

order to contrast it with the results under the group basis was a basis by which the depreciation rate was applied to each unit of each class of plant, so that the accruals resulting from the application of the rate would exactly amortize
6099 the cost of that unit during its life in service.

Cross-Examination by Mr. Goldstein.

I am generally familiar with conditions in New York City. I don't know it to be a fact that in New York City they installed more dial equipment than was required, and that they have been removing dial equipment from certain offices, and installing it in new offices in other locations. I don't know anything about it.

The exchange pole lines in New York are practically negligible. In Chicago they are just about holding their own,
6100 not growing fast. In both cities the investment in exchange pole lines is a small proportion of the total investment.

I also spoke of the Chesapeake and Potomac Telephone Company of Washington, D. C. I said the property of the Cincinnati and Suburban Telephone Company and the Southern California Telephone Company was substantially all located in one city, in each company, except for the years 1930 and 1931 for the Southern California Company.

I don't think the conditions are exactly comparable in any two companies. There are certain factors affecting depreciation rates which I know to be different, as between those three companies, and the city of Chicago. That would affect the depreciation rate or expense.

6101 JOHN R. TURNER, a witness on behalf of the plaintiff, in rebuttal, having been previously duly sworn, resumed the stand and testified further as follows:

Cross-Examination by Mr. Goldstein.

July 1, 1932

(The summary sheets which were handed to the defendants yesterday as embodying the results of the investigation about which the witness testified on rebuttal were identified as Defendants' Exhibit X-436.)

I stated in rebuttal yesterday that I made an investigation, the result of which shows that if the Company had determined its rate on the unit method instead of the Company method, the depreciation expense would have been lower in 1923 by $146,000, and lower in some other years, and higher in other years.

6102 As I recall it, I started that investigation about three weeks ago, or, perhaps, four weeks. It was finally finished day before yesterday. We have had a force of people working on this and other matters pretty much simultaneously. Just as a rough approximation I would say that we may have averaged throughout the period, oh, three men, and in the neighborhood of five girls, comptometer operators. Now, I cannot say that that many were working constantly because I don't know just exactly how much time they were working on that investigation. There was night work on it too.

The detail of my study is embodied in the volume which is shown me by counsel for the City plus the summary
6103 X-436. I would guess the volume contains 150 pages.

There are no other working papers besides this and besides X-436. Of course, a great deal of the information that is contained in that volume which has just been mentioned is taken from the Company's studies under the group basis method, and is transferred to that, so that it involves

the studies which have already been made available to defendants. It involves a comparison of the rates developed from both studies, and the resulting depreciation expense.

This document of 150 pages I delivered to defendants yesterday at noon. There are no working papers in the
6104 volume on station equipment, pole lines, aerial cable, and office furniture and fixtures. I have no working papers on those accounts. The determination of the difference in expense for classes of property other than buildings and equipment is developed through an analysis of the unit method applied to underground cable.

"Q. Now, as I understand this new investigation, it was not intended to show does not show the difference in the depreciation expense between the book expense figures as they entered in any of the Exhibits A-49 or A-53, but the investigation was to determine the result of applying what you consider the Company method to certain specific items of plant for the years 1923 to 1930, inclusive, as compared to the unit method applied to the same items of plant, is that correct?

"A. Not precisely. What we did was to determine the difference in depreciation expense resulting from the actual studies on the Company's basis as compared to the unit basis, using, so far as possible, the exact figures under the Company method.

"Q. Did you take the Company method of determin-
6105 ing the depreciation expense as it was done in 1923, or is it the Company's method as you now use it applied to the book cost of plant in 1923?

"A. It would be the difference that it would be necessary to add to or subtract from the depreciation, resulting from my retrospective view of the depreciation rates in former years."

The "Company method" that I used is my own method
6106 and not the method that Mr. Hale used in 1923.

With reference to the classes of property in Exhibit
6107 X-436: under the Company's method we determine the average life and average salvage for a group of property; and by a group we mean all of the various increments to a building during its entire life experience, that is, its

additions and its retirements. By the group method in outside plant, for example, we have reference to, let us say, the cable placed in one year, some of which cable will go out in the next year, some the second year, in the third year, and so on. We determine the average life of that group of cable placed, let us say, in the year 1930, and also the average salvage, from which we determine a rate which is applied so long as any part of that cable is left in service, the rate being applied, however, only to the investment that is there each year.

Now, under the unit method as used in Exhibit X-436, we deal specifically with the portion of a building that is in service at the time the rate is determined. For example, we have a new building, we determine what life that particular portion of the ultimate building will attain. In doing that, it is, of course, necessary to consider future additions, even under the unit method, for the reason that when you make an addition to an existing building, it is necessary to remove some part of the existing building.

6108 To take a specific case that we experience frequently, we make vertical additions. When you do that, it is necessary to remove the roof of the existing building; therefore, that portion of the investment in the initial building represented by the cost of the roof, the parapet, wall and any other part of it that may be removed when that vertical addition is made, has only that length of life to the time of the first addition. In the case of outside plant and other classes than buildings and central office equipment, using the cable as an example, we determine in effect a depreciation rate for each unit of cable in service at the time that the rates are determined, applying that rate, of course, to the property in service during the current year.

That, in a general way, is what I did.

We eliminated the future additions in the case of buildings and central office equipment, in so far as any allowance was made in the rate for the expenditures represented by the

future additions. I would like to make it clear that I
6109 have eliminated the future additions in the rate as far as the future additions themselves are concerned, but these future additions bring about retirements of the existing property which has to be considered in the rate under the unit basis. We would eliminate from the rate the shorter life of future additions. But we would shorten the life of the existing property because of the partial retirement of the existing property that occurs when the future additions
6110 are made. We necessarily changed our salvage figures. I also assumed that our piecemeal retirements of the buildings were taken always from the oldest part of the buildings at the time of the retirement.

In regard to the central office telephone equipment, I used the actual experience for retirements for the years 1930 and 1931, instead of the estimated additions and retirements as used in our 1929 study, because we have that study completed on the 1932 basis, but as to the others, I believe we did not.

We didn't in buildings. The central office equipment is
6111 all. The reason for that was that we have not the information worked up in study form for buildings yet; that is why we didn't do it?

The dial central office introduced in this new investigation wasn't shown in detail in Exhibit A-128 because it was covered by my direct testimony.

The group method is uniformly followed by the Company in all studies except this latest investigation. We used
6112 the group method for all classes of plant to which we applied the mortality study. We use the group method in the case of the pole lines.

"Q. Now, you continually add new poles by extending your line, and then you may take out the entire line, is that correct?

6113 "A. Oh, not necessarily; not so much so in Chicago. In Chicago, I should say that it is very largely of replacing poles and existing lines.

"Q. In the case of aerial cable, you make an initial installation of cable and then you make extensions of that initial

installation, and then you sometimes take out the entire length of the cable, is that correct?

"A. Not so much in Chicago. It is mostly a case of replacing with cable of larger size but to some extent that is true."

The life of pole lines and aerial cable varies in accord-
6114 ance with the amount of young plant that we have at any time. In the case of pole lines we consider the life only on the pole lines that are in existence at the time. We don't take into account any effect of any poles that may be added later.

In this new investigation, with the modifications I have pointed out heretofore (that the future additions will have their effect on the retirement of the present property), we varied from Exhibit A-128 in two respects: we eliminated from consideration the effect of future additions on the
6115 life of the existing central office equipment and we changed from the group method to the unit method.

I don't understand how one could compute the effect of using the group method for central office buildings and equipments, eliminating from consideration the future additions. The group method is based on the average life throughout the over-all experience of the buildings. That is what we mean by the group method. We take into consideration the future additions.

I heard Mr. Hill testify in this case to the effect that in my study in A-128, table 9, for buildings, we do not use the group average, but used the unit average. My new study used the same identical method as that used in table 9 of A-128
6116 for buildings, and also table 6 for central office equipment.

Let me cite the cable account, or rather the class of cable that I analyzed in considerable detail, as an example of the change in this new investigation of the salvage figures I used in connection with Exhibit A-128. Under the group method, we determine the average salvage that we expect from all cable. Now, that is the comparable way it is shown on the

books and records of the Company. We can ascertain
6117 from the accounting records the average salvage derived from all cable retired in any year. That is the group basis. Now, under the unit method, we have had to estimate the salvage that we will obtain from cables that are retired at the end of one year, at the end of two years, three years, and so on. Now, I have made that estimate so that for the entire property we will get the same average salvage that we get under the group method, but I have had to increase the salvage very substantially for the cables that come out after a very short life, and I have had to decrease the salvage for the cables that come out after a very long life. In other words, I had to distribute the average salvage over all the various ages at which cable would be retired.

For the manual central office buildings, I changed from 20 per cent under the Company method to 15 per cent in the unit method. The reason for that is, the salvage we expect from our manual central office equipment will be very largely derived from the newer and more modern equipment that is
placed in the future additions, which will come out at the
6118 time the office is retired. When you eliminate the advantage that you get of new and modern types of equipment, then you, of course, find lower salvage. I was referring to central office equipment before.

Now, for the buildings, the difference is very much more severe. If we take a building right through its over-all life experience to its final disposal, we have estimated that we can sell many of our buildings, taking into consideration the lack of adaptability of the buildings, however; and when we retire portions of our buildings, we sustain a net loss. Referring back to the case I cited of the vertical addition, if when we make an addition we remove the roof, the net salvage loss then is very substantial. In fact, our experience has indicated that on the average the net loss associated with
6119 the retirement of a part of a building approximates 35 per cent of the book cost of the portion removed. Now, when you go to the unit basis, you are eliminating future additions that will survive to the time when the building is

sold. When you deal with the initial construction, you have got to consider the portions of that addition or that initial construction that will be retired on the interim basis at a great loss, as well as the portion that will survive to the time of obtaining salvage through sale of the building.

Of course, as I just stated, the loss associated with an interim retirement is based on the fact that we have analyzed that from our history. The amount of salvage we will obtain when the building is ultimately sold is a matter of judgment, not alone in this unit study, but also in the studies I have testified to in this case.

For dial central office buildings, page 3, I show under "Company method", 35 year life and 20 per cent salvage, and under "Unit method", 40 year life and 7 per cent
6120 salvage. I have just finished explaining one part of the reason for the change. That is the fact that you are going to have a lower salvage because you are dealing with the initial portion of the dial building; and in the second place, the difference in the life, of course, is rather obvious; we are going to get a longer life out of the initial construction than we get out of the average of all the future additions with their shorter life effect. Now, I worked that out very roughly; I have taken what I consider a typical example, and determined what proportion of that initial construction might be expected to survive through an entire period of 50 years, what portion would be retired when an addition is made, and what portion is represented by building equipment, elevators, steam-heating plants and so on, and how long they would live, on the average.

The Company has not used the unit method in connection with underground cable; it has not used the unit method for anything.

6121 In my computation for underground cable, the distribution by age of the average plant now in service was taken from the mortality study identified as Defendants' Exhibit X-437. These two sheets are built up in the same way as the mortality study in Exhibit A-128, and are in the same form as shown in A-128, page 12.

I have not made a distribution of age of station apparatus.

6122 In my treatment of piecemeal retirements for buildings and central office equipment in my new investigation, I applied the retirements against the oldest gross additions. The oldest gross additions are not always retired first. I have made a check of the fact that we find very little difference between the assumption that I have made, that they do come out of the first additions, and the way they actually come out.

In speaking of the 5 per cent junk salvage, I base the range of re-use of piece parts from year to year (from approximately 10 per cent to 25 per cent) on discussion with the supervisors, who are in a position to know just how extensively the piece parts are re-used, not with precise mathematical knowledge, but in general, and they have stated very
6123 positively that they are less than 25 per cent, and in their opinion they would range from 10 to 25 per cent. Now, if they range from zero to 25 per cent, the results in the station apparatus study would not differ.

In my testimony I explained that Mr. Tholin had arrived at his 21-year life by using a figure determined by the Company of 19.77 years; he used the Company's figures of 19.77 years, as a base, to which he applied the percentage increase that he had developed.

6124 "Mr. Braeelen: That is all. I am not sure whether I made a formal offer of the exhibits identified by Mr. Turner and Mr. Woodford, and to make sure, I do it now.

"Judge Wilkerson: The exhibits may be received in evidence.

6125 "Mr. Goldstein: May the record show then that the 18.22 years is the unadjusted figure, and Mr. Turner would testify that the 18.22 years is the unadjusted figure to which the factor of growth is applied, resulting in a life of 19.77 years, as just testified, being used by Mr. Tholin.

"A. That is correct."

ALLAN B. CRUNDEN, a witness on behalf of the plaintiff, having been previously duly sworn, resumed the stand and testified further in rebuttal as follows:

Cross-Examination (Continued) by Mr. Goldstein.

I have not checked all of the calculations on Exhibit X-438 because they are numerous, but I have checked enough of them to understand the exhibit for the purposes of the comparison.

"Q. Are the mathematical calculations on pages 1 6126 and 3 the same, to arrive at the result in page 1, from 7.21 to 10.44 for the entire Company investment, year 1930, to arrive from 7.67 to 11.24 in the last column on page 1, and to arrive from 32.15 to 59.52 on page 3, in the case of telephone instruments for the year 1923.

"A. As mere mathematical computation.

"Q. Yes.

"A. Regardless of captions, or anything else.

"Q. That's right.

"A. Just the comptometer operation, that is correct.

"Mr. Goldstein: Yes. I would like to make one correction, a typographical error. The item D on page 2, which reads "Capital stock investments" should read "Capital stock installments".

"A. Yes. I have not checked all these details on page 2. I will change this word to "installments".

(Defendants offered in evidence Exhibits X-436, X-437 and X-438. Received.)

6128 *Re-direct Examination by Mr. Blackman.*

The terminology on X-438 is not the same as that used on X-111. On sheet 3 of X-438, the last item reads, "Per Cent return expressed on capital stock par value 59.52". That is a correct development of the amount which he purports to develop under the assumptions contained in the previous lines of the exhibit. In connection with the same figure, 59.53, on

Exhibit X-111 the wording is "Per cent of return on investment expressed in per cent of return to A. T. & T. stockholders on the average capital stock investment". Those are by no means the same things at all.

6129 *Re-cross Examination by Mr. Goldstein.*

If he had put in per cent of investment expressed in return on capital stock par value it would have made page 1 wrong in the same way that page 3 is wrong. Then the 10.44 would have been wrong as applied to the heading that you proposed to be used.

"Q. And when the American Telephone and Telegraph Company told its stockholders that the earnings were 10.44 on capital stock, do you consider that that was an expression of return on investment expressed on capital stock par value or not?

"A. No, I don't think the word "investment" comes in there at all in that connection.

"Q. You did not consider that the 10.44 was a return on investment?

"A. No."

Re-direct Examination by Mr. Blackman.

6130 The word "investment" is a generic term. The 10.44 represents the relationship between the earnings of the company and the par value of the stock or shows the earnings per share. It takes no account of the fact that much stock was issued at a premium. Some of the stock was issued at 180. It takes no account of the fact that there is surplus invested in the business to provide part of the earning power which is reflected in this 10.44.

Re-cross Examination by Mr. Goldstein.

"Q. And by that you mean that 10.44 would cover not only the return for the money put in to form the capital stock, but also surplus and premiums.

"A. The 10.44 is the per cent return figured on the par value of the capital stock.

"Q. But that is the total return that the stockholder would get on his entire investment, capital stock, premiums and surplus.

"A. Well, you are talking about it as if you could transmogrify a percentage from one base to another, and you cannot do that. If you say there is 10.44 per hundred dollars of par value of capital stock, and that is all that the
6131 business gets, that is all right. But we have got a percentage that we are dealing with here. That percentage represents the amount of earnings available for the stockholders for whatever investment they had, including the stock premiums and surplus, as related to the par value of the stock.

6132 By the way, that exhibit is headed up "A. T. and T. Company", and then it goes on to say, "Use of a conversion factor", and so forth. I think it ought to be made clear that the American Telephone and Telegraph Company never used that conversion factor.

Re-direct Examination by Mr. Blackman.

The American Telephone and Telegraph Company does not use any such formula as appears on the sheet 1 of X-438. It is not necessary. All it does is to say, "Our net income is so much, we have so many shares of capital stock, and that amounts to so much a share". That is 10.44. And that is shown on that exhibit.

6133 A great deal of that stock was paid for at $180 a share. The investment of the man who bought that stock was not $100, but $180. What is done in X-111 is to proceed as if the investor had paid only $100 for his stock.

"Mr. Bracelen: Counsel states that that completes his cross-examination of plaintiff's witnesses on rebuttal. One of my associates suggests that I should broaden the offer I made a moment ago to cover all exhibits that have been iden-

tified by the plaintiff's witnesses on rebuttal, so that the record will leave that point in no doubt.

"Judge Wilkerson: They are admitted subject to the objections.

6135 "Mr. Goldstein: I want to offer the X exhibits, if the record appears we have made no formal offer, we offer all of the X exhibits, so there will be no question about it.

"Judge Wilkerson: They are admitted."

IN THE

District Court of the United States

FOR THE NORTHERN DISTRICT OF ILLINOIS,

EASTERN DIVISION.

ILLINOIS BELL TELEPHONE COMPANY, Plaintiff, vs. G. GALE GILBERT, J. PAUL KUHN, WALTER H. WILSON, WILLIAM M. BRINKMAN, PHIL W. COLLINS and PAUL SAMUELL, the [illegible] constituting the Illinois Commerce Commission of the State of Illinois, and OSCAR E. CARLSTROM, Attorney General of the State of Illinois, Defendants, and CITY OF CHICAGO, a municipal corporation, Intervenor.	In Equity No. [illegible] Heard before Mon. Mark A. Kunz, Mon. George J. Page, Circuit Judges, and Honorable James H. Wilkerson, District Judge.

ABSTRACT OF RECORD.

Defendant's Evidence, Second Hearing.

Volume V—(Pages 1439 to 1760)

WILLIAM H. SEXTON,
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KENNETH F. BURGESS,
EDWARD L. BLACKMAN,
On Behalf of Plaintiff.

HORACE KENT TENNEY,
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Of Counsel.

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vs.

G. GALE GILBERT, J. PAUL KUHN, WALTER H. WILSON, WILLIAM M. BRINKMAN, PHIL W. COLLINS and PAUL SAMUELL, the persons constituting the Illinois Commerce Commission of the State of Illinois, and OSCAR E. CARLSTROM, Attorney General of the State of Illinois, Defendants,

and

CITY OF CHICAGO, a municipal corporation, Intervenor.

In Equity
No. 3746.

Heard before
Hon. Evan A. Evans
Hon. George T. Page
Circuit Judges
and
Honorable
James H. Wilkerson
District Judge.

ABSTRACT OF RECORD

Defendant's Evidence, Second Hearing

Volume V—(Pages 1439 to 1760)

3891 G. W. CUMMINGS, on behalf of the defendants, having been first duly sworn, testified as follows (June 1, 1932):

Direct Examination by Mr. Goldstein.

My name is G. W. Cummings, and I testified on behalf of the City at the previous hearing in this cause. Since then, I have been continuously employed by J. G. Wray & Company on telephone engineering work of the same general nature as described in my qualifications.

3892 I heard the testimony of Mr. Sloan in the present hearing in connection with Plaintiff's Exhibits A-2 to A-10, inclusive. These exhibits purport to give his estimate of the cost of reproducing the plaintiff's property in the City of Chicago as of December 31st of each year, 1923 to 1931, inclusive. Except for a few modifications which he described, such as the use of a variable weighting instead of fixed

weighting in the computation of his index numbers of material costs and a somewhat different method of computing his retirement factors, Mr. Sloan used substantially the same methods in Exhibits A-2 to A-10, inclusive, as he did in Plaintiff's Exhibit No. 1 shown in Volume 4 of the Record, Page 1. The accuracy of Exhibits A-2 to A-10, inclusive, depends upon the accuracy of Exhibit 1.

3893 Starting with the results set forth in Plaintiff's Exhibit 1, in Exhibit A-2 Mr. Sloan has adjusted the appraisal from June 30, 1923, to December 31, 1923, by applying to it certain factors purporting to represent the changes in cost levels during that period. To the original appraisal thus adjusted he then adds the gross additions during that period, and from it he deducts the retirements, after adjusting both to the December 31st level, by factors similar to those used in adjusting the original appraisal. The result is, his appraisal, as of December 31, 1923, as set forth in Exhibit A-2.

Similarly in Exhibit A-3 he obtains his appraisal as of December 31, 1924, by applying to the results of Exhibit A-2, as of December 31, 1923, certain factors purporting to represent the changes in cost levels during 1924, and adding the adjusted gross additions and deducting the adjusted retirements during the year 1924. His appraisal for each subsequent year as set forth in Exhibits A-4 to A-10, inclusive, is built up in the same manner from the appraisal at the end of the year immediately preceding the year under con-

3894 sideration. As each of the appraisals subsequent to June 30, 1923 is developed from the one immediately preceding it, any defect in Plaintiff's Exhibit 1 is embodied in Exhibits A-2 to A-10, inclusive. In the former hearing in 1929, both Mr. Wray and I attacked Plaintiff's Exhibit 1 on the ground that it could not possibly give a true reproduction cost of property which it purports to give.

The principal grounds upon which I based my conclusions are:

3895 1. The factors which Mr. Sloan applied to the book costs of each year to adjust them to the level of June 30, 1923 could not produce the result sought, because both the material and labor indices which composed these factors were erroneously constructed.

2. Since Mr. Sloan used the book cost as the basis of his appraisal, the result reflected construction conditions which were widely different from those which would be encountered in reproducing this property.

3896 Since the former hearing, additional grounds upon which I have based my conclusions have appeared. That additional ground arises from the method of proof employed by the plaintiff in attempting to justify the Western Electric prices by showing the Western Electric profits allocable to the Bell System.

However, I am confining my testimony at this time to the first two grounds mentioned, leaving to Mr. Hagburg the discussion of the third ground.

Both Mr. Wray and I pointed out that in the matter of material and labor indices, the weightings used in the construction indices were not representative of the actual weightings in the plant as it was built each year. In

3897 City's Exhibits 94 and 95, I intended to bring out the effect of this lack of representative character in the weighting used by Mr. Sloan in the preparation of his material and labor indices.

In City's Exhibit No. 94, which is entitled "Illustration of Effect of Weighting on Index Numbers, W. F. Sloan's Appraisals of Illinois Bell Telephone Company Plant," I showed the substantial differences between the two sets of index numbers of material costs developed by Mr. Sloan for the Chicago property, for the period 1911 to 1918, inclusive, one of these sets of index numbers being developed from his testimony before the Illinois Commerce Commission, and the other, before this court; and I testified at that time that these differences were caused by differences between the weightings used by Mr. Sloan in his two appraisals of the same property.

3898 (Objection by plaintiff's counsel on the ground that the witness is recounting his previous testimony already in the record and on the ground that witness quotes from former testimony already in the record. Objections overruled.)

3899 In my former testimony, I said: "I would expect to find greater differences in comparing the weighting

of the total plant with the weighting of the additions in any one year." "The admittedly wide differences in the items which were actually placed from year to year must produce a far greater difference in result." In City's Exhibit 95, I approached the same problem from a different angle. I explained the method as it was stated in Volume I of Record Pages 55, 57, 81 and 59.

"Q. Now, City's Exhibit No. 95 was offered by you for the purpose of demonstrating that by reason of his inconsistency in combining the figures, Mr. Sloan's cost indices necessarily were reduced to a mathematical absurdity. Is that correct?

MR. THOMPSON: To which question—

A. That is right."

3900 (Question objected to and objection sustained.)

3901 Mr. Sloan's testimony with reference to City's Exhibit No. 95 is shown in Volume II of Record 661, and my answer to that is shown in Volume V of Record Pages 1641 and 1642.

I have since made computations to support my answer as shown in Volume V of Record Pages 1641 and 1642.

I prepared the computation identified as Exhibit X-1 entitled "Illustration that test applied in City's Exhibit No. 95 is not affected by choice of base year having different proportions of material and labor." On Page 1 of that Exhibit, I have recomputed Table 1 of City's Exhibit No. 95, using the same data and the same method, but have turned it end-for-end by using June 30, 1923, as a base, instead of 1911 which I had used in Exhibit 95.

3902 My reason for turning it end-for-end is that in 1911, according to Plaintiff's Exhibit No. 1, material constituted 47.4 per cent of the total, and labor 52.6 per cent; while in 1923, material had dropped to 28.6 per cent and labor had risen to 71.4 per cent. The relation between labor and material which is shown in Column 4 of Defendants' Exhibit X-1 is therefore entirely different in 1923 from what it was in 1911—that would be Column 5 in City's Exhibit 95. And if Mr. Sloan's contention is correct, that our method rests upon the assumption that this relationship is the same throughout the period that it is in the base year, then by

using a different base which has an entirely different relationship, I must necessarily arrive at an entirely different result. But this exhibit shows the contrary, since a comparison between the last two columns shows that I arrive at the same result as before, the slight fractional differences being due to the dropping of fractions in the computation.

3903 Sheet 1 shows that if Mr. Sloan's per cent of increase in material cost which I have set up in the usual index form on a 1923 base in Column 1, and his proportions of material and labor as shown in Columns 2 and 3, are correct, then his labor index necessarily must be as shown in Column 6. But instead of this, he actually used a labor index, which, when arranged on a comparable base, is that shown in Column 7. The significant columns are 6 and 7.

On Page 2 I have applied the same test to Mr. Wray's computations which Mr. Sloan criticized. The first table on page 2 of Defendants' Exhibit X-1 is taken from City's Exhibit No. 1, for identification, which was Mr. Wray's affidavit, and follows the same methods that I later used in City's Exhibit No. 95. As Mr. Sloan indicated, the indices

3904 used 1919 as a base, and in that year I find from Column 3 that labor was 286.1 per cent of material. This is almost the highest percentage shown during the entire period, and for the purpose of my test I therefore picked the year which showed the lowest percentage, which was 1913, when labor was 240.1 per cent of material. I then computed the lower table on the same page of this exhibit, using the same data and the same method as in the upper table, but taking 1913 as a base.

Since the relationship between labor and material was very different in 1913 from what it was in 1919, I should, if Mr. Sloan's criticisms were correct, arrive at a correspondingly different result. But this exhibit shows the contrary, since a comparison between the results of the computation shown in Column 6 of the two tables, shows that changing the base, and with it the relationship between labor and material, does not change the answer. As in the case on page 1, there are some small fractional differences which are due, as in that case, to the dropping of fractions in the computation.

3905 Column 6 is the significant column in the two tables.

The figures, except for the small fractional differences to which I refer are identical in those two, showing that I arrive at the same answer, whatever base I take, and changing the base as I have stated, changes the relationship of labor and material. I have attempted to measure the extent of the error of Mr. Sloan's computation which has resulted from his use of the figures referred to.

Exhibit X-2 entitled "Measurement of Error in percentages of Increase in Plant costs used in Plaintiff's Exhibit No. 1 on Assumption that Increases in Material and Labor costs are Correct," was prepared under my supervision. It consists of four tables designated A, B, C and D. Table A is copied directly from Pages 114 and 115 of Plaintiff's Exhibit No. 1.

"Q. Does Mr. Sloan's explanation in connection with Plaintiff's Exhibit No. 1 cover the subject? A. I think it does."

(Question objected to on ground that it involved the witness passing upon and interpreting Mr. Sloan's testimony—sustained.)

The line designated "Total" in Table A in Defendants' Exhibit X-2 shows the percentages of increase in Plaintiff's Exhibit 1 Mr. Sloan applied to the book cost of gross additions each year, to adjust them to the cost level of June 30, 1923. Looking at the first column, for example, which is headed "August 1 to December 31, 1911"—as I stated this entire Table A is merely copied from Plaintiff's Exhibit 1—in that first column Mr. Sloan starts off with a statement that the cost level of material on June 30, 1923, was 151.86 per cent higher than it was during the period from August 1, to December 31, 1911.

In the second line it says that the cost of labor in 1923 was 70.06 higher than it was in 1911. The third and fourth lines are his proportions of the material and labor, purporting to show that in 1911, of the total cost of this plant constructed during that year, 47.4 per cent was material, and 52.6 per cent was labor.

In the next two lines he has multiplied his material index by his per cent of total cost-material, arriving at a figure

of 71.98, which he designates in Plaintiff's Exhibit No. 1 as a composite per cent—material. Similarly he mul-
3909 tiplies 70.06 in the second line, by 52.6 in the fourth line, and arrives at 36.85 in the sixth line, which he designates as "composite per cent—labor." Adding those last two lines he gets a total of 108.83 which purports to mean that the cost level of this plant Exchange Pole Lines on June 30, 1923, was 108.83 per cent higher than it was during the period from August 1st to December 31st, 1911. The other years shown are worked out in the same way from Mr. Sloan's per cent of increase on June 30, 1923, as compared with each of the preceding years in respect first to material, and then to labor; then his proportions of material and labor during each of those years; then his composite per cents; and the total, which is the sum of the composite per cents.

In Tables B, C and D of Exhibit X-2, I have not used any data other than that contained in Plaintiff's Exhibit No. 1. For the purpose of this computation I have made these assumptions:

3910 First, that Mr. Sloan's percentages of increase in material and labor cost on June 30, 1923, over each of the previous years as shown in the first two lines of Table A, fairly represent the actual changes in these costs from 1911 to June 30, 1923. In other words, that they are correct for the purpose for which they were used in his appraisal.

Second, that the items and quantities which he used as weighting factors in arriving at his percentages of increase of material cost and labor cost, are sufficiently representative to avoid any substantial error resulting from the use he has made of them. He used, you will recall, a fixed weighting of material, purporting to be a representative cross section of the total plant in service on June 30, 1923, and used that fixed weighting in computing his material index. He also used a fixed weighting in computing his labor index, the weighting in that case being what he referred to as a typical gang.

Third, I have made the same assumption that Mr. Sloan did, that any effect of a change or improvement in labor efficiency, labor performance, output per man hour—(all of

those terms have been used in the record), was negligible on the result. That refers to his discussion of the mat-
3911 ter in 1 Abstract 63 and 64.

My fourth assumption was that Mr. Sloan's proportions of material and labor which are shown on the third and fourth lines of Table A in Defendants' Exhibit X-2, for the first six months of 1923, do in fact represent the Company's actual experience in that respect during the six-month period. In computing the Tables B, C and D, I have used one rather fundamental mathematical principle, in addition to the assumptions just referred to. It is this, that when you are combining two or more related series of index numbers by percentages which represent the relationship between them, there is a very definite mathematical relationship between the trends of the various index series which we are combining and the percentages or proportions by which we combine them. Mr. Sloan's method disregarded that prin-
ciple, but I have used it here. I have discussed that
3912 assumption in Volume 2 of Record 74 and 55. Exhibit X-2 measures the extent of the error into which Mr. Sloan has fallen in his index of Pole Lines Cost, by reason of his disregard of the fundamental mathematical principle which I just stated, on the basis of the data and assumptions which I have also stated.

Beyond the assumptions which I have made, there is nothing else involved, except simple arithmetic which can be readily checked by anyone.

3913 Looking first at Table C, the first line designated Material Cost of Typical Plant, is taken directly from Plaintiff's Exhibit No. 1, pages 120 and 121, and shows the figures from which Mr. Sloan computed the percentages of increase in material cost which are used in the first line, which I have copied as Table A of this Exhibit.

I might say that on pages 120 and 121 of Plaintiff's Exhibit Number 1, Mr. Sloan computes his material index directly from the figures shown here. Plaintiff's Exhibit Number 1 does not give the corresponding labor costs of this typical plant, but does give data from which they can readily be computed, and that is the next step, for which Table B furnishes the starting point.

In Table B I have set down in the first line the average material cost of the typical plant during the first six months of 1923, as shown in Plaintiff's Exhibit Number 1. That figure is of course the same as the corresponding figure to which I have just referred in the same column of Table C.

Going back to Table A, in the third and fourth lines Mr. Sloan stated that during the period from January 1 to June
30, 1923, material comprised 28.6 per cent of the total
3914 cost and labor comprised 71.4 per cent. Now that
means, suppose we are building $100 worth of plant; that means that on the average out of that $100 worth of plant, $28.60 represents material and $71.40 represents labor. Dividing the $71.40 worth of labor by the $28.60 worth of material, we find that the labor cost was 249.65 per cent of the material; and I have put down this percentage in the second line on Table B. If the material cost of the typical plant during this six months' period was $1,497.21 as computed by Mr. Sloan, and if during that six months' period the labor of placing it cost 249.65 per cent of the material, then the labor cost for the typical plant during that period was $3,737.78, as shown on the third line of Table B; and the total cost was the sum of these, or $5,234.99 as shown in the fourth line of Table B.

These figures are then carried down to Table C, where they appear in the 1923 column, and form the starting point of that table. The percentage of total cost of material, and of total cost of labor, shown for this period in Table C, which would be 28.6 and 71.4, respectively, are of course the same as those in Table A. In that portion of Plaintiff's
Exhibit Number 1 which is reproduced in Table A of
3915 Plaintiff's Exhibit X-2 Mr. Sloan purports to show that
the labor cost in Exchange Pole Line account was .01 per cent higher on June 30th, 1923, than during the first six months of that year. That is shown on the second line, in the last column of Table A.

I therefore added .01 per cent to the labor cost of the typical plant during the six months' period as shown on the second line of Table C, and arrived at $3,738.15 as the labor cost of the typical plant on June 30th, 1923, as shown in the last column of Table C. From this point I worked the second line of Table C back through the years by applying

to the labor cost as of June 30, 1923, which I have just quoted, the percentages of increase shown in the second line of Table A. If, as shown in Table A, the labor cost on June 30th, 1923 was 1.78 per cent lower than it was in 1922, that gives us $3,805.89 in 1922, as shown on the second line of Table C for the year 1922. If it was 7.93 per cent lower on June 30th, 1923, than it was during the year 1921, then the labor cost in 1921 becomes $4,060.12 as shown in Table C for that year, and so on.

3916 Going back, for example, to 1911, the labor cost since Plaintiff's Exhibit Number 1 says that the labor cost on June 30, 1923, was 70.06 per cent higher than it was in 1911, then applying that percentage to the figure which I have developed in Table C for 1923, gives me $2,198.14 as the labor cost of this typical plant during 1911.

The labor costs shown on Line 2 of Table C were all worked out in that way from the June 30th, 1923 labor cost in that table, by applying the percentages of increase in labor cost which are shown on the second line of Table A. The material cost of the typical plant as shown in Line 1 of Table C, which, as I have stated, I copied from Plaintiff's Exhibit Number 1, and the corresponding labor cost in the second line of Table C, developed as I have just described, were then added to get the total cost in the third line of Table C, and the proportions of material and labor which enter into that total each year were computed on the fourth and fifth lines of Table C.

If for example in 1911 the material cost of the typical plant was $635.08 as shown in the first line of Table C, and the labor cost of that plant was $2,198.14 as shown in the
3917 second line of Table C, then the total cost of the typical plant during 1911 was $2,833.22, and obviously of that amount 22.4 per cent was material and 77.6 per cent was labor.

In 1912, making the same computations, we find that 23.9 per cent of the total was for material, the total being $2,885.48, and the material factor being $690.06; and 76.1 per cent, or $2,195.42 for labor.

The proportions of material and labor on X-2 differ very substantially from those used in Plaintiff's Exhibit 1. They show a much flatter trend. I might be more specific in saying that in 1923 of course they are the same, because

that is the point we start from; but in 1921 they dif-
3918 fer slightly. In 1922 they differ slightly, but as we go back through the years, the difference becomes substantial and erratic.

Table D is merely a recomputation of Table A, made by substituting the proportions of material and labor, which were developed as I have just described in Table C, for those proportions which are used in Table A.

I might say that of course the differences between the totals shown in Table C and those in Table A are due entirely to the differences between the proportions of the material and labor which I have just described. In the last line of the Exhibit, I compare those totals by dividing the totals shown in Table A, by the totals shown in Table D, and measure the extent of the error in each year in that way.

"Q. Now, Mr. Cummings, looking at the last line of De-
fendants' Exhibit X 2, is there any evidence of the com-
3919 pensating errors to which Mr. Sloan testified, in the—at the present hearings to the effect that while his method might produce errors in a given year, there would be compensating errors in the opposite direction in other years, so that the over-all result would be substantially correct?

Mr. Thompson: I object to the question. It seems to me that it again asks this witness to argue the effect of Mr. Sloan's testimony.

Judge Wilkerson: Well, he is in a sense an expert.

Mr. Thompson: Oh, yes.

Judge Wilkerson: Why not take his answer for what it is worth, and Mr. Goldstein may make his argument from it. I cannot see that the statement of the witness even under oath, amounts to more than your argument as counsel in the case. But if it will be convenient for you to have his answer in the record, you may proceed.

Mr. Thompson: Your Honor, there would not be any
3920 trouble if this were just a question or two, but it is perfectly obvious that all of Mr. Cummings' testimony, or substantially all of it, is built up on an argument as to the correctness of Mr. Sloan's testimony. Now, of course, that is perfectly—

Mr. Goldstein: We are trying to test his testimony by figures, and the court will never be able to get the figures without the testimony.

Judge Wilkerson: You have the exhibit here, and you may have the witness explain the computations that he made, and if the method that he used is different from the method employed by Mr. Sloan, the witness may state the contrary. But as to the conclusions, I expect you will have to argue that; you will have to draw the conclusions. It is perfectly proper for him, however, to state the method which he used, to state whether it is different from the method employed by Mr. Sloan, and to state what the difference is, that leads to the result; but when it comes to the argument, whether his method is correct, or the testimony of the preceding witness is correct, is another thing."

3921 The range of error is all positive, starting at 1911, ranging from a maximum of 35.31 per cent in 1919, to a minimum of .18 per cent in 1921; and if we go back to 1922, I find a small negative error amounting to 3.69 per cent. During the first eleven years the errors are all positive, and in the twelfth year it becomes negative to the extent of 3.69 per cent.

In Defendants' Exhibit X-2, I have assumed the correctness of Mr. Sloan's percentages of increase in material cost and labor. I assumed the correctness of his assumption that any changes in labor efficiency or output per man hour would have a negligible effect on his results. In City's Exhibit 95, I made a computation measuring the material index in terms of labor index, and the proportion of the material index. I have
3922 made a check in connection with the present hearings of the three accounts of Exchange Pole Lines, Exchange Aerial Cable and Exchange Underground Cable covering the years 1921, 1922, and the first six months of 1923.

In that check we tabulated all of the charges to those three accounts during that period, under both specific and routine estimates. On the estimate ledger sheets those charges are separated into material, supply expense, labor, overhead expense, Stable & Garage, and sundry disbursements. I am referring there to the estimate ledger sheet which is I believe S. N.—298—as I remember the form number. Other forms

have been used from time to time that serve the same purpose, but differing in detail. There is a similar separation in whatever form has been used.

We totaled all of the charges under each of the headings in each account for each year, and found that by taking Material plus Supply Expense as the material factor, and the sum of all the others as the labor factor, we arrived at prac-3923 tically the same proportions of material and labor in each instance as those shown in Plaintiff's Exhibit Number 1; while any other possible combination gave substantially different proportions. That told us that Mr. Sloan had developed his proportions of material and labor in that way, and that was later confirmed on cross-examining him.

The overhead column on the estimate ledger sheet includes not only the charges for plant supervision and tool expense, which Mr. Sloan has included in the computation of his labor index, but also general expense charged to construction as well as engineering; neither of which was included in his labor index.

The substantial charges included in the columns headed "Stable & Garage" and "Sundry Disbursements" do not enter at all into his computation of the labor index, although they do enter into his percentages, his proportions of material and labor.

I have computed from City's Exhibit Number 2, which was prepared by the company at the request of the City, the overhead charges during the period from 1911 to 1923. That 3924 exhibit shows that prior to 1920 the company did not charge any general expense to construction, and that the engineering charges were much less prior to 1920 than they were subsequently. In 1911 the charges were: General, nothing; Engineering, 1.86 per cent; total, 1.86 per cent. In 1912, General, nothing; Engineering, 1.27 per cent; total, 1.27 per cent.

In 1913: General, nothing; Engineering, 1.55 per cent; total, 1.55 per cent.

In 1914: General, nothing; Engineering, 1.74 per cent; total, 1.74 per cent.

In 1915: General, nothing; Engineering, 2.58 per cent; total, 2.58 per cent.

In 1916: General, nothing; Engineering, 2.20 per cent; total, 2.20 per cent.

In 1917: General, nothing; Engineering, 1.60 per cent; total, 1.60 per cent.

In 1918: General, nothing; Engineering, 2.89 per cent; total, 2.89 per cent.

3925 In 1919: General, nothing; Engineering, 2.56 per cent; total, 2.56 per cent.

In 1920 we have the first appearance of General, which in that year was .36 per cent; Engineering increased to 4.84 per cent, giving a total of 5.20.

In 1921: General, .54 per cent; Engineering, 3.94 per cent; total, 4.48 per cent.

In 1922: General, .56 per cent; Engineering, 4.12 per cent; total, 4.68 per cent.

From January to June, 1923: General is .63 per cent; Engineering, 4.48 per cent; total, 5.11 per cent.

The overheads which I have just quoted show a marked increase in 1918 and in 1920.

There are similar increases in Mr. Sloan's proportion of material in the total as shown in Table A of Defendants' Exhibit X-2, and also in Plaintiff's Exhibit Number 1.

The overheads which I have just quoted increased 81
3926 per cent in 1918 over 1917, and in 1920, due largely to the inclusion for the first time of General Expense, they increased 103 per cent. Mr. Sloan's per cent that labor was of the total, did not increase just those percentages of course, but showed substantial increases in each of those two years.

I have studies bearing on labor efficiency. Exhibit X-3, entitled "Productivity of Labor," was compiled under my direction and supervision from sources with which I was personally familiar. The sources were copies of the Monthly Labor Review, which is published monthly by the United States Department of Labor. The issues from which these
figures were compiled are shown in each case. I have
3927 included in this exhibit all such studies made by the U. S. Department of Labor in recent years which were sufficiently complete to give a comprehensive picture.

In many cases these figures were copied directly from the Labor Review; in some cases it was necessary to compute the index from published data. Where they would show, for example, output per man hour in different years, without showing the index, in that case we had to compute the index. In some cases we had to change the base year to facilitate the comparison. Where there were such computations they will be evident from a comparison of this exhibit with the Labor Review. These studies cover many lines of industry - they cover a very broad field. To me they give a very representative picture.

Aside from the studies by the Department of Labor, the increased output per man has been discussed in this case by Mr. Gherardi, in the New York depositions. It has be-
3928 come a factor in recent economic discussions.

3930 As I stated in describing Table A of Defendants' Exhibit X-2, the method used by Mr. Sloan to insure improvement in labor output per man hour was adequately re-
3931 flected in his result to combine his labor and material indices by means of proportions of material and labor which purported to represent the actual proportions found in the Company's construction experience of each year.

3932 By using the proportions of material and labor which the company found in its experience each year, his purpose as I understood it was, among other things, to reflect the labor performance of each year by means of these proportions. Actually from a mathematical standpoint I do not think it produced that result.

3933 My reasons for that conclusion are as follows:

Mr. Sloan sets up a material and a labor index, and combines them by these percentages to which I have referred, that purport to represent the respective proportions of material and labor found in the company's experience each year. What he actually does of course is to multiply the material index by the percentage that material is of the total and multiply the labor index by the percentage that labor is of the total, and then adds the results to obtain the composite indices, which he applies to the book cost.

Now, suppose, for example, to see how it works out, that in the base year, when both indices are 100, the proportions of material and labor are fifty and fifty. His composite would of course be 100, because he would take 50 per cent of 100 as the material factor, and 50 per cent of 100 as the labor factor, and adding those two together gives a composite of 100. Suppose that in the next year material costs and
3934 wage levels do not change, but that by reason of improved labor productivity, or for any other reason, the labor cost became 45 per cent of the total. Now, the percentages of course must add up to a total of 100 per cent, so if the labor cost becomes 45 per cent of the total, due to improvement in labor performance or for any other reason other than that of wage levels, the material cost would then become 55 per cent of the total.

Mr. Sloan would then take 55 per cent of 100 as representing the material factor and 45 per cent of 100 as representing the labor factor, and his composite would still be one hundred, and it would show no change in construction cost level, in spite of the fact that labor cost had actually dropped, while material costs had not changed.

In other words, whenever the proportions of material and labor reflect a decrease in actual labor costs, from any cause other than that measured by Mr. Sloan's wage level index, while his method uses a smaller porportion of his labor index, it offsets the decrease by using a larger proportion of
3935 his material index, with the obvious result that it fails to measure the actual decrease in construction cost which in fact has occurred, due to improved labor efficiency or some other cause.

In the case which I have just cited, Mr. Sloan's method would exactly nullify the actual decrease in labor cost, in that it would give the same answer that he would get if there were no such decrease. That would not necessarily be the result in every instance, because the nature and extent of the error depend on the relationship between the trends of the material and labor indices and the proportions of material and labor.

If, for example, his material index went up, and his labor or wage level index went down, while the proportions of mate-

rial and labor showed that there was a further decrease in actual labor cost, due to increased efficiency, or any other cause besides the decrease in wage levels, then his method would not only fail to reflect any of the further decreases in actual labor cost, but would even neutralize part of the decrease in wage levels, because since the proportion of material has in-
3936 creased as a result of the further decrease in actual labor cost, he would add into his composite a correspondingly larger part of his increased material index, making his answer actually larger than it would have been if there were no decrease in labor cost other than that measured by his wage level index.

His error does not bear any definite relation to any change in labor cost other than that measured by his wage level index.

In the making of index numbers, according to the general practice, we very often combine two or more series of index numbers into a composite by means of percentages in a quite similar manner to that which Mr. Sloan used in this case. We do that where one of two conditions is met, and only where one of those conditions is met. Either the cost indices and the weighting percentages must both reflect completely the same changes in conditions, in other words, must be consistent with each other, or else there must be no causal relationship between them.

I have discussed the first condition at some length in
3937 my testimony in the previous hearings, and touched upon it here, and have shown that it is not met in Mr. Sloan's figures.

As an illustration of the second, which is perhaps more often found, suppose that I am manufacturing telephone cables, and want to know the composite metal price index, which affects my cost. Suppose further that the demand last year was wholly for 51 pair cable in which lead is an important factor, while this year the demand is for 600 or 900 pair, in which copper is more important. The proportions of copper and lead which enter into my manufacturing cost are quite different in the two years, but these proportions, which result entirely from the nature of the demands for cable, are not affected by changes in price level of the two metals, and would properly be used to weight the price indices of copper

and lead into the composite which measures the change in the metal cost.

It is only where, as in the present instance, the proportions between the two factors, such as material and labor, are directly affected by changes in the cost indices of those factors, and where such changes are not reflected with an equal
3938 degree of completeness in the cost indices on the one hand, and in the proportions between them on the other hand, that this method of compositing indices leads to error.

I have made a computation from Plaintiff's Exhibit 1 which illustrates his failure to reflect an actual decrease in labor cost. Exhibit X-4, entitled "Table to Illustrate That Reduction of Labor Cost from any cause is not fully reflected in Plaintiff's Exhibit 1," is that computation.

Exhibit X-4 relates only to the years 1922 and 1923, and to the Exchange Pole Line account. All of the data used are taken from Plaintiff's Exhibit Number 1. These data
3939 include the material cost of typical plant. I am discussing now the sources of the figures, and what the figures show in X-4.

These data include the material cost of the typical plant shown on Line 1 of Defendants' Exhibit X-4, which is taken from page 121 of Plaintiff's Exhibit Number 1; the labor costs of the typical gang, on Line 2, which is taken from page 132 of Plaintiff's Exhibit Number 1; and the proportions of material and labor on Lines 5 and 6, which are taken from page 115 of Plaintiff's Exhibit Number 1.

Using 1922 as a base, and the material and labor costs shown on lines 1 and 2, I have computed the material and labor indices as shown on lines 3 and 4. It will be noted that the material and labor indices go in opposite directions; the material index going up from 100 to 105.55, while the labor index goes down from 100 to 98.21—which is one reason I selected these two years for the test, because I wanted to get an actual illustration of the principle that I have just been discussing.

Looking first at the computations under the heading
3940 "W. F. Sloan," I have composited the material and labor indices by Mr. Sloan's method, multiplying line 3 by line 5 to get line 10, which he designates as Composite Per-

cent Material; multiplying line 4 by line 6 to get line 11, for the composite per cent of labor; and then adding lines 10 and 11 to get the total or composite index of line 12, on the last line.

This is the method used in Plaintiff's Exhibit Number 1, and results in an index which purports to show that the level of Pole Line Construction Cost was slightly higher in 1923 than in 1922, since it goes up from 100 in 1922 to 100.31 in 1923, a result which agrees with that shown in the first table on page 115 of Plaintiff's Exhibit Number 1—which I copied as Table A of Defendants' Exhibit X-2.

In that table Mr. Sloan states that the cost level on June 30, 1923, was 2.09 per cent higher than in 1922, but only 1.96 per cent higher than in 1923, indicating that the cost level was slightly higher in 1923 than in 1922.

3941 In the second computation under the heading "J. G. Wray & Company," I started with the same material cost and the same proportions of material and labor as before, but to avoid any possibility of falling into an error similar to that of Mr. Sloan, I used an entirely different method.

Looking first at the proportions of material and labor—if in 1922 the material cost is 26.6 per cent, and the labor cost is 73.4 per cent of the total as shown on lines 5 and 6, then obviously the labor cost in that year is 73.4 divided by 26.6, or 275.93 per cent of the material cost as shown on line 7.

If the material cost in that year is $1,418.43, as shown in the first line, then the cost of the labor required to place it is 275.93 per cent of $1,418.43, or is $3,913.87, as shown on line 8. Adding that labor cost to the material cost in the first line gives a total cost of the typical plant in 1922 of $5,332.30 as shown in line 9. Making the same computation for 1923 we find that in that year the labor cost is 249.65 per cent of the material cost, or $3,737.78; and the material cost shown in the first line is $1,497.21; so adding the material cost to the labor cost, we find the total cost to be $5,234.99 as shown in line 9.

3942 Dividing this by the corresponding total of $5,332.30 shown for 1922 gives the index shown on the last line; and we find that instead of being higher, as indicated by Mr.

Sloan's method, the construction cost level as measured by his data on lines 1, 5 and 6 was actually lower by about 2 per cent in 1923 than it was in 1922. Mr. Sloan's method shows an increased cost in 1923, instead of a decreased cost, as shown by my method, for the reasons outlined in my discussion of the hypothetical case a few minutes ago; the decrease in the labor cost beyond that measured by the wage level index merely results under Mr. Sloan's method in using a larger proportion of his increased material index.

In the present instance, as in my hypothetical illustration of the principles involved, the changes in the proportions of labor and material from the first year to the second, indicate that there is a decrease in labor cost over and above that shown by the wage level index which Mr. Sloan has used. That further decrease may have been due to increased efficiency,
or some other cause, but whatever it was, Mr. Sloan's
3913 method not only failed completely to measure it, but
even increased the apparent cost level above that which would have resulted if there had been no such further decrease in labor cost.

Defendants' Exhibit X-5 entitled "Comparison of gang make-ups as of June 30th, 1923, used in Plaintiff's Exhibits Numbers 1 and A-2" was prepared under my supervision. It shows the substantial differences between the typical gang make-ups used by Mr. Sloan in Plaintiff's Exhibit Number 1, covering the period prior to June 30th, 1923, and in Plaintiff's Exhibit A-2, and with one or two minor exceptions, in all of the subsequent exhibits from A-3 to A-10, inclusive, covering the period subsequent to June 30, 1923.

In Pole Lines he has used the same gang in both periods.
For Aerial Cable he has used the same placing gang,
3914 has increased the splicing gang very substantially,
more than doubled it. For Exchange Aerial Wire he has cut down the number of men in the gang from 8 to 1, changing the composition entirely.

For Exchange Underground Conduit he has changed the composition of the gang substantially, and especially by increasing the number of common laborers from 30 to 50, increasing the total size of the gang from 33 to 56.

3945 In exchange underground cable, there are similar differences. I would simply say that if the gang make-ups used in Plaintiff's Exhibit No. 1 were typical of the company's experience on June 30, 1923, then the gang make-ups used in Plaintiff's Exhibit A-2 could not very well be representative of the company's experience on July 1st.

In the last two columns of Exhibit X-5, I have reduced the gang make ups to percentages of the total gang in order to bring out the differences in weighting. In the case of pole lines, of course, the last two columns show the same percentages. In the case of all of the others, the percentages are very different. In the case of aerial cable, for example, in Plaintiff's Exhibit No. 1, the line foreman is 9.8 per cent of the total, while in Plaintiff's Exhibit A-2 that drops to 6.35 per cent of the total. In Plaintiff's Exhibit No. 1, linemen constitute 29.42 per cent of the total. In Exhibit A-2 they constitute only 19.05 per cent of the total. And similar dif-
3946 ferences run throughout. The difference is most marked, of course, in the case of aerial wire, where all the workmen shown on Plaintiff's Exhibit No. 1 are dropped out except the line installers. When you get into Exhibit No. 1, the line installers amount to 25 per cent of the total gang, and in Exhibit A-2, amount to 100 per cent.

3947 I do not think either of these gang set-ups is representative of the company's experience in 1923. For my reasons, I really have to refer to Mr. Sloan's testimony.

3948 Mr. Sloan described in the present hearings how he arrived at his typical gang make-up. He said that in 1911 there were a certain number of foremen on the payroll, a certain number of linemen and so on through the various classes of labor, giving the figures in each case. In 1912, the number—he also gave the figures, which were different from those in 1911; he gave them in each year. Then he testified that the average of all these figures for the entire period was substantially the typical gang make-up which he used in his pole line account, for placing aerial cable and stringing aerial wire. His testimony in respect to his subsequent exhibits, A-2 to A-10, was along similar lines, as I recall it. He testified in connection with Plaintiff's Exhibit No. 1 that in giving these figures, they showed, of course, that the actual compo-

sitions varied substantially through the years, but he had used an average.

He testified further that in doing that, he had not taken any account of what accounts these foremen, linemen, groundmen and other workmen were actually charged to,
3949 whether they were charged to pole construction, aerial cable or whatnot, or even whether they were charged to construction or to maintenance.

Without knowing how these men were actually charged, I would hardly venture to set up a typical gang on the basis of the total workmen of each class.

Since the former trial, I have been able to make a check of the results obtained by Mr. Sloan in Plaintiff's Exhibit No. 50, method No. 4. I made that study from the company's actual construction records. Defendants' Exhibit X-6, which is entitled, "Comparison between company experience and Plaintiff's Exhibit 1" was prepared under my direction.
3950 Page 1 of Defendants' Exhibit X-6 is comparable to method No. 4 of Plaintiff's Exhibit No. 60, except that I have shown the results separately by years instead of in total for the entire period, as Mr. Sloan did in Plaintiff's Exhibit 50.

In Plaintiff's Exhibit 50, Mr. Sloan sets up four methods, one, two, three and four, of which four appeared to me the most complete and was the one I checked in this instance. And, with the exception of separating it by years, I have followed the set-up here that Mr. Sloan used in that instance. I have used the same plant accounts, the same period, except that I did not include the year 1920. Mr. Sloan made his study covering the period from January 1, 1920, to June 30, 1923.
3951 I might qualify that last statement: I believe he used some annual figures for 1923 as a matter of convenience. I did not include 1920 in this study, because the company did not use the estimate ledger sheet, on which the expenditures are all drawn together, until 1921, and while we examined the 1920 data, we found it scattered through detailed records in a way which made any summarization of it eleven years later difficult and uncertain. I had varying numbers of people

working on this study. I would say that it took about three months' full time, of myself and assistants.

Looking at line 1 of this table, account 241, exchange pole lines, for the year 1921, the figures shown as total gross additions, June 30, 1923, levels, appraisal method, are $81,843.23.

This figure, which I have computed on page 6 of this
3952 exhibit, is the same as that shown on page 15 of Plaintiff's Exhibit No. 1, except that Mr. Sloan dropped the cents in that case. It is the result of applying Mr. Sloan's factor to the actual book cost of gross additions, in order to adjust it to the cost level of June 30, 1923. When I say actual book cost, I mean as those book costs are set up in Plaintiff's Exhibit No. 1, which I assume to represent the facts.

In the next column, headed "Company experience," I show $74,173.42, which is the result of applying to that same book figure of gross additions a factor which I have derived from my study of the company's actual experience, as disclosed by its construction records, in order to adjust the book figure to the cost level of June 30, 1923.

In the first column, and that again corresponds to the similar column in method No. 4 of Plaintiff's Exhibit 50, Mr. Sloan uses there the heading, "Appraisal method," which is the same heading I have used for the first column here, and for the second column he used the heading "Method No. 4," where I use the heading "Company experience."

3953 In the last column he shows the percentage that one is of the other, "per cent of appraisal method." I have used that same heading, and made the same kind of comparison, and by doing that I show that, taking the company's actual construction experience as a basis, the 1921 gross additions to the pole line account after adjustment to the cost level of June 30, 1923, are 90.63 per cent of the amount shown in Plaintiff's Exhibit No. 1. The amount shown in Plaintiff's Exhibit No. 1, of course, is carried forward as I previously testified into Plaintiff's Exhibits A-2 to A-10, inclusive. Similarly, the second line shows that for aerial cable additions during 1921, we can justify from the company's experience only 88.43 per cent of the figure used by Mr. Sloan. The third line shows 94.92 per cent of the figure used by Mr. Sloan
3954 for underground cable. And the fourth line shows for

all three accounts as a whole, that on the basis of the company's experience, we could justify only 93.77 per cent of the figure arrived at by Mr. Sloan in Plaintiff's Exhibit No. 1.

The differences between these figures and 100 per cent—these differences ranging from 5.08 per cent to 11.57 per cent, are comparable with Mr. Sloan's figure of 2 per cent, which he testified was the maximum difference which his tests disclosed for any one year. The remainder of the table is worked out in the same way, and makes similar comparisons for the year 1922 and the first six months of 1923.

In each case, the figures shown in the column headed "Appraisal method," agree with those given in Plaintiff's Exhibit No. 1, and included in all of Mr. Sloan's appraisals for subsequent years. Those in the column headed "Company Experience" are based on the company's records of actual construction.

3955 These charts, which comprise the next four pages of Defendants' Exhibit X-6, are plotted from the percentages on page 1. Page 2 of the exhibit, the first chart, shows the pole lines; page 3, aerial cable; page 4, underground cable, and page 5, the composite of the percentages for the three accounts. The purpose of these charts is to bring out the definite trend away from the base point of June 30, 1923. It is obvious that since the first six months of 1923 terminated at the base point of June 30, 1923, there is room for but little difference during that period, while as we go farther from that base, there is room for more difference, and these charts show that the differences between Mr. Sloan's appraisal figures and those based upon the company's experience, do in fact increase rapidly, as we go farther from the base point of June 30, 1923.

I do not know, of course, what the difference might amount to in other years, but the trend here is, I think, quite definite.

The pages which follow the charts consist of tables which are virtually working papers supporting the table on
3956 page 1. Page 6, for example, shows the derivation of the figures for pole lines on page 1, and also affords a comparison between the per cent increase, June 30, 1923, and previous periods as developed from the company's experience and as used in Plaintiff's Exhibit No. 1.

As I stated, the figures on the first line are taken from Plaintiff's Exhibit No. 1, where they appear on page 15, and there they purport to be the gross additions in account 241, exchange pole lines, during 1921, 1922 and the first six months of 1923, and the total figure. The figures for the total period, of course, do not appear in Plaintiff's Exhibit 1, but are simply the result of my adding those three figures. To these figures of gross additions are applied the percentages of increase shown immediately below to adjust them to the level of June 30, 1930, as shown at the bottom of the table and as carried forward on page 1.

For example, looking back on page 1, account 241, ex-
3957 change pole lines, shows appraisal method $81,843.23,
and that figure may be found on page 6, the third line of figures from the bottom, where it is the result of applying Mr. Sloan's percentage shown on the third line of figures, of 5.99 to the gross additions shown on the first line, of $87,058.

Similarly the figure in the second column on page 1 of $74,173.42, may be found on page 6, on the fourth line of figures from the bottom where it is the result of applying the percentage shown on the second line of figures, a decrease of 14.80 per cent to these same gross additions. And the same applies, of course, to the figures for the other years, 1922 and 1923.

A comparison between the percentages, as shown on the
second and third line of figures on page 6, shows that in
3958 1921 the company's experience indicates, as I just stated,
a decrease of 14.80 per cent to the level of June 30, 1923, while Mr. Sloan used a decrease of only 5.99 per cent. Therefore, the actual decrease, as we found it from the company's experience, was 2½ times as great as that used by Mr. Sloan in his appraisal.

In 1922 the company's experience indicates a decrease of 5.69 per cent, while Mr. Sloan used an increase of 2.09 per cent. In the first half of 1923, the company's experience indicates an increase of .23 per cent, or 23/100 of one per cent, while Mr. Sloan used an increase of 1.96 per cent. For the entire two and one-half year period, as shown in the last column, the company's experience indicates a composite decrease of 5.90 per cent, while Mr. Sloan used an increase of .39 of 1 per cent.

The next computation shows the amount of increase or decrease. Where it was decrease, I have shown it in the exhibit by bracketing. I am now discussing lines 4 and 5.

3959 By the way, I just noticed that the first amount of increase shown in 1921 as company experience, the second half of the bracket was omitted, at least in my copy. I do not know whether it was in the other copies or not. That was, of course, a decrease, and should have been bracketed.

The amounts shown there are arrived at by applying the percentages shown in lines 2 and 3 to the gross additions shown in line 1. The differences between the amounts of increase or decrease resulting from the application of the two sets of percentages are, of course, substantial, as shown in the line marked "differences." In the case of line 6, in 1923, for example, the difference is shown as $2,055.48, which is about 7½ times the actual increase, as shown on line 4. The gross additions, at level of June 30, 1923, are shown on the third and fourth lines from the bottom. To obtain these figures I merely subtracted the amount of increase or decrease which I just discussed from the gross additions in the first line.

The differences shown between the two sets of figures, those based on company experience, and those used by Mr. Sloan in Plaintiff's Exhibit No. 1, I think are indicative of the error in Mr. Sloan's appraisal of this account for the years shown in this table. What his error would be in other years, of course, I do not know. But when the differences are expressed as percentages in the last line of the table, they show, of course, the same increasing trend away from the base point of June 30, 1923, as was illustrated in the four charts which preceded this table. I am now referring to the percentages of

3961 ten and thirty-four one hundredths per cent in 1921, eight and twenty-five one-hundredths per cent in 1922 and one and seventy-three one-hundredths per cent for the period January to June, 1923.

In developing percentages of increase of June 30, 1923, over the base periods, I have, like Mr. Sloan, developed separate percentages for material and labor, and have composited them in the same manner that he did, using his proportions of material and labor. This is shown for the pole line account on page 7, which is set up in the same form as the correspond-

ing computation on page 115 of Plaintiff's Exhibit No. 1. The results shown on the last line of this table are, of course, the percentages of increase or decrease which are used in the table on page 6 of this exhibit.

The table on page 8 is set up in the same form and an-
3962 swers the same purpose as that on page 6, except that it relates to material costs only; the actual material costs shown in the first line are totaled from our working sheets, and which we copied from the company's construction records—the actual charges for material made on all estimates, both specific and routine during the year 1921, for the year 1922 and the first six months of 1923.

As in the similar comparison on page 6, the differences between the percentages of increase or decrease, which we developed from the company's experience, and those used by Mr. Sloan, are quite substantial. Those percentages are shown on the second and third lines of page 8. For 1921, for example, we find a decrease of 6.91 per cent, which is four times the decrease found by Mr. Sloan and used in his appraisal of 1.76 per cent, as shown on the third line. For 1922, his percentage of increase of 12.77 per cent is about 2½ times as great as that indicated by the company experience, which we
3963 show on the second line as 5.24 per cent. In 1923 his percentage of increase is nine times as great as ours, 6.83 per cent as compared with the company's experience as we found it on their construction records, or developed from their construction records, of 0.77 per cent. When I said nine times as great as ours, I meant nine times as great as I found the company's experience to be.

The percentages which we have set up here as representing the company's experience, are, of course, obtained from totals of detailed work-sheets, which are too voluminous to incorporate in an exhibit of this nature. They have, however, been made available to Mr. Sloan since the preparation of this exhibit, and have been examined by him and by his people.

Since the book costs are to be adjusted by these percentages
to the level of June 30, 1923, the percentages should be
3964 on a basis comparable to the book costs; that is, they should measure the difference between the actual prices

at which the various items of material went on the books and the prices at which those same items could be purchased on June 30, 1923.

In measuring that difference, the first step is, of course, to set up a list of items and quantities. In Plaintiff's Exhibit No. 1, Mr. Sloan used what he claimed to be a representative cross-section of the total plant in each account as of June 30, 1923, and priced it out at the price levels of each year. In Plaintiff's Exhibit No. 50 he used an annual summary which was prepared by the company of the items added in each account, and I have examined that summary.

We went to the construction records and tabulated every item of material placed on each estimate. We did not use, for our purpose, any summaries, but took our figures in detail from the estimate ledger sheets, both specific and routine.

After pulling off all the details and summarizing it, we
3965 then compared our totals with the same summary which Mr. Sloan had used, or a summary which was handed to us by the company and stated to be the one used by Mr. Sloan. I believe we did compare the totals of many of the figures in that summary, with Mr. Sloan's working sheets and verified them and found our totals were in substantial agreement.

On page 8 of Defendant's Exhibit X-6, I show the actual material cost in 1921 of $26,547.72. I have stated that that was the total that we found on the company's records. Following Mr. Sloan's example in Plaintiff's Exhibit No. 1, we have included in this figure the supply expense. Eliminating supply expense and taking the bare material figures, we
3966 found on the company's construction records, in the pole line account for 1921, a total of $23,909.82.

Comparing that with Mr. Sloan's work sheets, we found on there a total of $17,043, or 71.28 per cent of the amount that we found on the company's construction records. That is, Mr. Sloan used in his figures, 71.28 per cent of the amount which I found on the books of the company as representing the items for the year 1921. That is in account 241, exchange pole lines.

For 1921, in account 242, we found direct material charges amounting to $49,550.87. Mr. Sloan's work sheets showed

$34,337, or 69.3 per cent of the figure, of the total we found.

3967 For 1921, in account 245, we found $437,932.60, as compared with a total on Mr. Sloan's work sheets of $362,358, Mr. Sloan's figure being 82.79 per cent of what we found on the company's construction records.

In account 241 in the year 1922 we found on the company's construction records a total of $52,466.66 in direct material charges. On Mr. Sloan's work papers we found a total of $36,272, which is 69.13 per cent of the figure which we found on the company's records.

For the same year, 1922, in account 242, we found on the company's construction records direct material charges amounting to $125,234.32, as compared with a total on Mr. Sloan's work sheets of $98,224, Mr. Sloan's figure being 78.43 per cent of that which we found on the company's records.

For account 245, for the year 1922, we found on the company's construction records direct material charges
3968 which totaled up to $826,026.83, as compared with the total on Mr. Sloan's work paper of $753,524, Mr. Sloan's total being 91.22 per cent of that which we found on the company's construction records.

We made no comparison for the period January to June, 1923. We didn't make any because Mr. Sloan used the summaries for the entire year, while we pulled off from the construction records the detail for the first six months.

Q. Thus far you have been describing merely the question of what items you found on the books compared to what Mr. Sloan used as the representative cross-section of the company's experience? A. Not exactly as a representative cross-section. Mr. Sloan's working sheets to which I referred were those underlying Plaintiff's Exhibit 50, and purported to represent the entire construction for this period.

3969 Having a list of the items which Mr. Sloan took from that annual summary, and which we compiled from the construction records, the next step is to price them out at the level of each year, and at the level of June 30, 1923.

In respect to the level of June 30th, there will be no difference, because on a given date there is a definite price in effect.

And, as a matter of fact, partly for convenience, and partly because I wanted to insure that we were on a comparable basis, we took nearly all of our June 30, 1923, prices from Mr. Sloan's records, going to the company only for such prices as Mr. Sloan did not have.

We took them in some instances from his working papers; in other instances, we computed them from the exhibit, but all of the figures which we used for June 30, 1923, except, as I say, for a few minor items, on which he did not have the prices, we took from Mr. Sloan's records, and, therefore,
know that we have used the same figures for that date
3970 that he did. That is true of each of the three accounts.
And I so assured Mr. Sloan when he was going over our working papers.

Over any considerable period, such as a year, prices change substantially, and the manner in which the price for the period is computed may affect the result considerably, and here comes in the basic difference between Mr. Sloan's method and the one which I have followed in respect to material. Mr. Sloan has testified that he averaged the prices from the bills of each year. But, while that may give the average price paid during the year, that price is not necessarily the price at which the items went on the books, but very often is quite different.

In saying that it is quite different, I base that answer
3971 partly on what we found in this case, but also on what
I have found to be the case in other instances over a considerable period of years where I have made similar comparisons in the case of other companies.

I might illustrate one of the factors, and only one, in this way: Suppose that today I buy a thousand feet of cable, for which I paid $1 a foot, a total of $1,000. I would charge account 122, materials and supplies, with a thousand dollars. Tomorrow the price, we will assume, drops to 90 cents a foot, making the value of that reel of cable $900, but I still carry it in materials and supplies at $1,000, because that is the price that I paid for it.

Suppose we install that cable next week. At what price will it go into plant? In order to keep my supplies account straight, I must credit supplies with the $1,000 and in order

to keep my books in balance I must charge plant with that same amount of $1,000 even though the current price may be only $900. In practice, of course, it is not as simple
3972 as that. Many other complications enter into it. And the net effect of the lag that I have described and other complications, is that we very often find substantial differences between current prices and the prices at which the material items are credited to supplies and charged to plant.

These prices are often referred to as SN2 prices, and are the prices used in pricing out the material quantities on the estimate ledger sheets, because, necessarily, as I have stated, in order to keep your books in balance, you have to charge an item to plant at the same price with which you credited it to materials and supplies. And it is these SN2 prices, the prices with which the material items are charged to plant, that go on the books, and form the basis of the book costs, which in turn have formed the basis of Mr. Sloan's appraisal.

And since, as I have pointed out, the percentage of increase or decrease should be on the same basis as the book costs to which it is to be applied, in arriving at the actual
3973 material cost of each year, from which, by comparison with the June 30, 1923 level I derived my per cent of increase or decrease, I used the dollars which we found associated with the material items on the construction records; in other words, the dollars at which the items were on the books, as contrasted with Mr. Sloan's use of billing prices.

I did not use unit prices at all in pricing out the material. That is, Mr. Sloan used the billing prices, and assumed that those were the book costs, and I went to the records and actually found the book costs. Page 9 of Exhibit X-6 follows the same form as pages 6 and 8 and serves the same purpose in respect to labor costs. As in the case of material costs, the actual labor costs shown on the first line are summarized from the company's construction records. I stated that
3974 we added to the material cost, which we summarized from the construction records, the percentage of supply expense. We did the same thing in the case of labor costs; in order to make our results comparable with those shown in Plaintiff's Exhibit 1, we used Mr. Sloan's percentages for

plant supervision and tool expense, taking those percentages from page 143 of Plaintiff's Exhibit No. 1.

I have applied those percentages to the total direct labor cost in the same way that Mr. Sloan did on page 132 of Plaintiff's Exhibit No. 1. I did not personally check those percentages, but they have been put in the record in two different places and I accepted them for the purpose. They were afterwards put in the record by Mr. Turner, and I am familiar with the usual method of computing such percentages and assumed that they had made no mistake in their method or in their computation.

Referring to lines 2 and 3 on page 9, of Exhibit X-6, a comparison between the percentages of increase or decrease
on June 30, 1923 and the previous periods, as indicated
3975 by the company's experience with the corresponding
percentages used by Mr. Sloan leads to results similar to those which we found in the case of material which we previously have discussed, and also in the case of gross additions as shown on pages 6 and 8.

In 1921, in the pole line account, I found that the level of June 30, 1923 was 18.41 per cent lower than the level of 1921. That is computed from the company's construction record, and, of course, represents their experience, with a single modification, to which I will refer in the last column.
3976 The 18.41 per cent decrease in the pole line account for
the year 1921 compares with 7.93 per cent decrease which Mr. Sloan used in Plaintiff's Exhibit No. 1.

For the year 1922, we found a decrease of 9.65 per cent, as representing the company's experience, as compared with Mr. Sloan's decrease as shown in this Exhibit No. 1 of 1.78 per cent.

Now, in the case of 1923, I could not follow the same method that I did in 1921 and 1922. In fact, for 1923 I simply used Mr. Sloan's percentage, because labor cost levels, unlike material cost levels or wage levels, cannot be computed as of an instant date. The situation in that respect is the same as in the cases of supply expense and plant supervision and tool expense. In respect to these expenses, Mr. Sloan used 1923 averages in lieu of June 30, 1923 levels, because expenditures of that nature cannot be determined as of a given

3977 date, and neither can labor costs be determined as of an instant date, for similar reasons.

I might have computed the 1923 average level and used that as Mr. Sloan used the 1923 average level for supply expense and plant supervision, but the difference in the result would have been too slight to justify such a study. It would have been quite an undertaking, and, therefore, I accepted his percentage of increase.

As to the rest of the table, my discussion would be similar to that for pages 6 and 8 of this exhibit. The last line shows that in 1921 the differences between the results indicated by the company's experience and those developed by Mr. Sloan amount to 12.84 per cent of the company's experience, in 1921, and 8.71 per cent in 1922. And these percentages are quite indicative, I think of the error in Mr. Sloan's
3978 result in respect to labor costs in the exchange pole line account during 1921 and 1922. That is, the error, in 1921, amounted to 12.84 per cent of the company's entire experience and in 1922 to 8.71 per cent.

In the case of labor costs, as in the case of material costs, our working papers, from which I computed the percentages of increase or decrease in labor costs, are rather voluminous, and they consist of tabulations in detail of the labor hours and labor dollars of each class of labor, which were charged to pole line construction on each estimate. In working from the detailed construction records of the company, we necessarily pulled off an enormous mass of detail in the way of labor hours and labor dollars. Those are all in our working papers and have been made available to Mr. Sloan since the preparation of this exhibit.

The basic principle is the same as that previously dis-
cussed in material costs, that since those percentages
3979 are to be used for adjusting book costs, they should be determined from the charges which actually were on the books, rather than from wage levels or any other assumptions.

The fundamental difference between Mr. Sloan's method and the one I have used in the preparation of this exhibit is that while my percentages for each account are computed from the charges which went to that account on the books, his

percentages were computed from the average wages of each class of workmen, as determined by a spot check of the pay rolls at the end of each quarter. When I say spot check, I mean rather payrolls for the year, and he took the payrolls at the end of each quarter, which he considered gave him a representative cross section of the number of foremen, the number of linemen and so on, and the average wages of each class, without regard to which account these workmen
3980 may in fact have been charged to, or even whether they were engaged in construction or maintenance work. I did not determine the actual gang make up in any case.

Ordinarily, since specific estimates cover larger jobs than routine estimates, I would expect the composition of the gang to be somewhat different on the two classes of estimates, and I did find, in fact, that the costs per hour are different on the two. We worked up these costs per hour separately for the specific estimates and routine estimates and then combined the result because we found there was likely to be that difference in the composition of the gang.

We summarized the actual labor costs in each account for each year from the construction records of that account and added to it, as I stated, Mr. Sloan's loading for plant
3981 supervision and tool expense. For example, the 1921 figures of $16,997.17 shown in the first line on page 9 of Defendant's Exhibit X 6 comprises the following items: Specific estimates, direct labor costs, which we totaled from the company's construction records, $1,930.79. Plant supervision and tool expense at 10.9 per cent, which we took, as I stated, from page 143, I think, of Plaintiff's Exhibit 1, it amounts to $210.46, total specific $2,141.25. That is, out of the actual labor cost of $16,997.17, we found from the company's experience that there was included therein only $2,141.25 on specific estimates.

Under routine estimates we found direct labor cost amounting to $13,395.78. To this we added Mr. Sloan's percentage of plant supervision and tool expense at 10.9 per cent,
3982 giving us for the plant supervision, $1,460.14, or a total under routine estimates of $14,855.92, or a total for both specific and routine estimates of $16,997.17, which is the figure shown on page 9.

The labor hours associated with these direct labor charges were specific estimates (still referring to the year 1921) 1856 hours; routine estimates, 12,351 hours or a total of 14,207 hours. These 14,207 labor hours are the hours which actually cost the company in 1921, the amount which we show in the first column of $16,997.17. Those labor hours are associated with the dollars on the estimate ledgers, both the routine and the specific, in the quantities stated above.

To price these out at the level of June 30, 1923, I took first the nearest period to that date at which I could deter-
3983 mine the actual level which was the six months preceding that date. During those six months we found, and charged specific estimates in this account, 735 labor hours at a direct labor cost of $621.63, or an average of $0.8458 per hour. In pricing out these labor hours, we priced out separately the labor hours applicable to specific estimates and the labor hours applicable to the routine estimates. I am now describing how we priced out the specific estimate labor hours. I followed Mr. Sloan's estimate that the June 30, 1923 level was .01 of one per cent higher than the average for six months preceding that date. So, I have increased the cost per hour accordingly, raising it from the actual of the first six months of 1923, the actual of $0.8458 per hour to $0.8459 as the level of June 30, 1923.

3984 With respect to routine estimates for the six months preceding June 30, we found 24,941 hours charged to routine estimates at a cost of $22,686.97. Dividing one by the other we find the cost per hour to be 90.96 cents. Adjusting this to the June 30th level, by Mr. Sloan's .01 of one per cent, it becomes 90.97 cents. That is, the per hour cost as of the June 30th level for the routine estimates was .9097 as compared to .8459 for the specific estimates. We used, of course, the same classes of labor, same general classes, linemen and groundmen on both.

In pricing out the 1921 labor hours to June 30, 1923, I take up first the specific estimates. As I stated, we had in 1921 1,856 hours; multiplying that by the cost per hour at
3985 the level of June 30, 1923, which I think I have just given as $0.8459, gives us a direct labor cost for 1921 at the level of June 30, 1923 of $1,569.99. Now, in 1923 the plant supervision and tool expense, as shown by Plain-

tiff's Exhibit No. 1, and used in that exhibit, was 8.3 per cent. Applying that 8.3 per cent to the direct labor cost, we find the plant supervision and tool expense to be $130.31. Adding that to the direct labor cost gives us a total labor cost on specific estimates in 1921 at the cost level of June 30, 1923 amounting to $1,700.30.

To arrive at the 1921 labor cost on routine estimates at the June 30, 1923 level, we followed the same method. We found as previously stated, 12,351 labor hours, which we priced out at the June 30, 1923 cost per hour of 90.97 cents, and arrived at a direct labor cost at the level of June 30, 1923 of $11,235.70, the plant supervision and tool expense at 8.3 per cent of this amounted to $932.56, giving a total labor cost under the routine estimates of $12,168.26.

3986 Adding that to the figure previously developed for specific estimates, gives us a total labor cost on specific and routine estimates combined for the year 1921 at the cost level of June 30, 1923 of $13,868.56. The actual labor cost for 1921 was, as stated, $16,997.17, and dividing the cost at the 1923 level by the actual cost at the 1921 level, we arrive at the decrease of 18.41 per cent, which is shown on the second line of page 9. We worked up the corresponding percentages for 1922 in the same way.

Pages 10, 11, 12 and 13, are set up in the same way as pages 6, 7, 8 and 9, and they give the same information with respect to account 242, exchange aerial cable. The sources of data used in pages 10, 11, 12 and 13 were the same, and the methods followed were the same as those which I have
3987 described in discussing the pole line account with one minor exception. That exception is this: Unlike the building of pole lines, the construction of aerial cable involves two distinct operations which are done by two different gangs. These operations are placing and splicing. The proportions between them vary widely in different years; the cost per labor hour is quite different in the two different gangs. For these reasons, a correct answer cannot be obtained with any method involving a fixed weighting between them, such as Mr. Shean used in Plaintiff's Exhibit 1, and to avoid that error I have worked up the two operations of placing and splicing separately, using for each the same method, I have described in the case of pole line labor.

The percentage of decrease in labor cost for 1921 and 1922 as shown on pages 11 and 13 of this exhibit are composites,
weighted between placing and splicing on the basis of
3988 the actual labor hours charged for these two operations
on specific and on routine estimates appearing each year. I have stated we pulled off from the estimate ledger sheets the detailed charges in dollars and hours by classes of labor. Now, the company uses a very elaborate classification of labor and we pulled that off in detail and then summarized them into the two broad groups, covering the splicing operation and the placing operation, which gave us the labor hours for each operation, and we weighted the placing and splicing results which we got on the basis of those actual hours.

For 1923 we made the same assumption as we did in the case of pole lines, and used Mr. Sloan's percentage of increase. Pages 14, 15, 16 and 17 (Exhibit X 6) account No. 245 "Exchange underground cable" are set up in the same form and were worked out from similar data and by the same
methods as in the case of pole lines and aerial cable.
3989 The same separation was made between placing and
splicing labor costs and between routine and specific estimates as in the case of aerial cable.

In this account we made one further refinement. The underground cable account includes, or did include during the period covered by this study, two sub accounts, which at that time the company designated on its books as 5-C, which covered underground cable proper, and 35-C, which covered house cable or building cable.

There is a wide difference between the labor costs in the two sub accounts, and there is also a wide difference between the respective proportions of these two sub accounts in the total underground cable account.

I have some representative figures here. Six hundred pair 22 gauge cable, for example, is used largely on both codes
5-C and 35-C. On 5-C, as I expect to show in a later
3990 exhibit, the company required .5077 labor hours a foot,
while to place that same cable on code 35-C it required 1.1449 labor hours per foot, or 2¼ times as much labor to place a foot of the 600 pair 22 gauge cable.

As to the proportions between the two; in 1921 code 5-C comprises 70.1 per cent of the total of the underground cable account, while in 1922 it comprised 77.1 per cent, 35-C, house cable, comprising the remainder of 29.9 per cent of the total in 1921 and 22.9 per cent of the total in 1922. The actual differences in the weighting as shown by these illustrations I have used in my study. Mr. Sloan made no allowance for those changes in weighting. That is, he made no allowance in weighting his per cent increase or decrease in labor costs in this account as shown on pages 135 to 138, inclusive, in Plaintiff's Exhibit 1. I gave full effect to that by working
3991 up the two sub-accounts 5-C and 35-C, just described, separately. The percentage of decrease in 1921 and 1922 labor costs shown on pages 15 and 17 of this Exhibit (X-6) are composites of the two sub-accounts weighted according to their respective proportions during each year.

For 1923 I used Mr. Sloan's ratio as I did in the case of pole line and aerial cable.

Apart from the overheads and the 1911 appraisal,
3992 all of Mr. Sloan's appraisals in this case consist of the company's book costs, adjusted by the percentage factors I have been discussing. The book costs used by Mr. Sloan as a basis for his estimate of reproduction cost, reflect construction conditions which were different from those which would be encountered in reproducing the property, principally in this way. While in a reproduction estimate we would treat the construction of the property as a single large job, or a group of large jobs, with perhaps a few smaller jobs in isolated sections in the territory, the actual construction work which in total has produced the book costs, consist for the most part of relatively minor additions to existing plant. That affects the cost in two ways. First, in making additions to existing plant, it is necessary to take special precautions to avoid or at least to minimize interruptions to the service which is being furnished by that plant. While such
3993 precautions necessarily increase the cost, often quite considerably, their effect would vary widely on different jobs, and I don't know of any way to estimate or to measure that effect.

Second, jobs consisting of additions to existing plant are naturally much smaller than would be involved in the con-

struction of the plant as a whole. The effect of those on costs can be measured with reasonable accuracy by comparing the labor hour performance experienced by the company on its larger and smaller jobs. What I have just stated does not take into account the fact that there were improvements in both large and small jobs during these years. Broadly speaking, the larger jobs are covered by specific estimates and the smaller ones by routine.

Up to January 1, 1921 any job costing more than $1,000 was covered by specific estimate. Jobs costing less than $1,000 were lumped under routine estimates. Effective
3994 January 1, 1921, the dividing line was raised from $1,000 to $2,500. I am speaking now of the outside plant accounts which we are discussing here. From my knowledge of the practice of the Illinois Bell, a large part of the outside plant is constructed under routine estimates. It consists largely of such things as the addition of a pole or two to an existing pole line, the splicing of a new cable terminal to an old cable, things of that sort, which would not ordinarily
3994 be handled as separate jobs if the plant were to be reproduced. We would splice that terminal on with the other terminals when we put the cable up, splice it through; we would set the pole with the other poles in the layout.

"Q. And to the extent that your excess cost enters, and because of that one factor of reproduction cost which uses an index and uses the actual cost, it would include the excess cost in the reproduction, is that correct?

A. On a percentage basis, yes."

3995 Since Mr. Sloan has used a percentage increase in cost from year to year, the percentage of error or difference between wholesale construction and piecemeal construction would be magnified by that percentage of increase and would be greater in dollars in his appraisal than it would on the books.

Suppose that as a result of a large proportion of piecemeal construction, being included in the company's actual experience, we find that by eliminating or minimizing the effect of that piecemeal construction, the company could have done its work with, say, eighty per cent as many labor hours, that would mean, of course, disregarding the difference be-

tween cost per hour of specific and routine estimates, for the sake of simplicity, that their labor cost on a wholesale construction basis would be only eighty per cent of that shown by the books.

Now, suppose further that between the year in ques-
3996 tion and June 30, 1923, labor costs have risen fifty per cent. Supposing that our labor cost on the books in that given year was $100,000 actual, on the basis of wholesale construction it would have been $80,000, eighty per cent of the actual. Suppose that the cost level has risen from then to June 30, 1923, say, fifty per cent. The $80,000 would then become $120,000 and the actual cost would become $150,000. The spread between the actual cost of $150,000 and the cost on a wholesale construction basis of $120,000 is $30,000 as compared with the difference in the given year between $80,000 and $100,000, a difference of $20,000.

So that the difference on the books of $20,000 would be magnified into a difference of $30,000 by the increase in the cost levels.

"Q. Now, Mr. Cummings, I direct your attention to the statement by Mr. Sloan that—appearing in One Abstract at pages 52-53, 60-61—that the routine construction included in
the book cost which he used as the basis of reproduction
3997 estimate did not distort the result. Did you make a study of the increase of the construction work done by the company as bearing upon this statement of Mr. Sloan?

A. His claim that it did not distort the result was based—included several different points, all of which we have purported to meet in our exhibits, based upon our study of construction costs.

Q. What did you find from the study of the record of construction work as bearing upon any one of the points that he made, and will you please describe each one you investigated and what you found?

A. It is a fact that on routine estimates as a whole the labor cost is a larger proportion of the total, or a larger proportion, or larger percentage of the material cost on routine estimates than it is on specific estimates."

3998 From the records of the construction work of the company with respect to pole lines, I found, for example,

that during the period covered by this study, the years 1921 and 1922 and the first six months of the year 1923, the average length of the poles set was 33.6 feet on specific estimates and 35.6 feet on routine estimates; 2 feet longer on routine estimates than on specific estimates. During that period there were 365½ poles placed on specific estimates and 2,691 on routine.

With reference to aerial cable, there were a total of 252,514 feet of cable placed on specific estimates during this period with an average size of 77.9 pairs, while on routine estimates we found 143,788 feet placed with an average of 82.9 pairs.

The average number of pairs in the cable was somewhat
3999 greater in the case of routine estimates than specific.

Referring to Plaintiff's Exhibit 52, which is a map of the cable plant in Rogers Park, and which shows a large number of short alley runs, it is perfectly true, of course, that a large part of the aerial cable plant in Chicago consists of short alley runs. It is also true as I shall show in a later exhibit, that out of a total of 103 specific estimates on which aerial cable was placed, 79 estimates, or 76.7 per cent of the entire number, showed total expenditures for aerial
4000 cable of less than $2,500 during this two and a half year period—nearly half of them ran under $350. We studied all of the company's construction records showing all aerial cable placed during the two and a half year period.

In Plaintiff's Exhibit 51, Mr. Sloan showed that in account 241, exchange pole lines 80½ per cent of the amount was placed on routine estimates. From our study of the company's experience during this two and one-half year period, we found 93.2 per cent of all of the pole line account, that is, 16 per cent more.

With reference to account 242, Plaintiff's Exhibit 51 purports to show that 64.7 per cent of the aerial cable was
4001 placed under routine estimates, while in our study of the company's experience during this two and a half year period, we found 72.2 per cent, or 12 per cent more than Mr. Sloan—than Plaintiff's Exhibit 1.

With reference to account 245, Plaintiff's Exhibit 51 shows 20.8 per cent placed under routine estimates. Our study of

the company's experience during this 2½ year period showed 38.7 or 86 per cent more than Mr. Sloan's figure.

For the total of the three accounts, the company's experience was 48.5 per cent for the period 1921 to 1923, whereas Mr. Sloan used 32.2 per cent. The company's experience then is 50 per cent greater than Mr. Sloan's figures. The estimates studied covered all work done during the
4002 period. I believe that was true of Plaintiff's Exhibit 51, as I recall it, and it was true in this case. I account for that difference partly, at least, by the change in the dividing line, to which I previously referred, between specific and routine estimates, the dividing line being $1,000 prior to 1921 and $2,500 thereafter. So that because of that change, Plaintiff's Exhibit 51 gives a different result, a result which is not representative of the company's experience since 1920.

The fact that a large amount of money is shown by the company to have been spent on construction does not indicate whether such construction was piecemeal or was wholesale construction.

4003 I can illustrate it in this way: You might have a gang set a pole in South Chicago; you might move that gang to Beverly, set another pole, move them to Austin, set another pole, move them up to Rogers Park and set another pole; you would be setting a few poles in a piecemeal way at an enormous cost, much higher cost; you would be spending a great deal more money than if you set those poles in a wholesale way.

(June 2, 1932)

4005 "Mr. Goldstein: Now, if your Honor pleases, before starting the testimony, there are two matters I would like to take up. First, in order to avoid any question later, we would like to know if there is any question of the sufficiency of the identification of our D. Exhibits, which were offered here and came from the American Telephone & Telegraph Company, or the Western Electric Company, but which some of the witnesses could not identify.

Now, if there is any question about that, we would like to know it at this time, so that there will not be any question at the last minute.

Mr. Thompson: Mr. Goldstein, I have told you—

Mr. Goldstein: All right.

Mr. Thompson: (Continuing):—a number of times, that anything that we have furnished to you, we will not deny that we furnished.

Judge Wilkerson: Unless you show it came from the Western Electric Company—if you say it came from the Western Electric Company, we will assume it came from the Western Electric, unless you show to the contrary, that it did not.

4006 Mr. Goldstein: All right. Now, the other thing is, we would like the motion called up on the study which we talked about yesterday, because the other side will not produce it, and we need it in connection with our Western Electric Company testimony.

4008 Mr. Goldstein: We have made a check yesterday, and I would like the record to show the result of the tabulation of the provisional estimates, which shows that there are 7,967 pages of provisional estimates for the years 1923 to 1931, inclusive, exclusive of the Illinois Bell provisional estimates. It took us nine hours to do it, and we want the record to show it—and that is exclusive of the documents that are over here.

Q. Mr. Cummings, I direct your attention to the following testimony of Mr. Sloan: (I Abst. 52)

(I did not assume any percentage of the construction was piecemeal construction. Substantially I have assumed in taking the book values that none of the construction is piecemeal construction.

4009 I am guided in that statement by the fact that during this period from 1911 to 1923, there was substantially $86,000,000 of plant construction, and the average rate of construction was about $7,000,000 or $8,000,000 a year.

When a plant is constructed in this manner, there is no opportunity for any so-called piecemeal construction. You cannot spend seven or eight million dollars a year in a city the size of Chicago, and do it in a piecemeal manner.)

Mr. Cummings, do you agree with that conclusion, and if not, why not?

A. I do not, and I gave an illustration yesterday which showed one reason why I did not. I think the fallacy of that theory is evident from that illustration. Other things being equal, the larger the element of piecemeal construction, the larger the expenditure, and the mere fact that a large amount of money was spent gives no indication whatever as to whether it was spent in a wholesale or a piecemeal manner."

4010 "The illustration that I gave was, having a gang set a pole in South Chicago, and then going to Rogers Park to set another, and then to Austin, and then to Beverly; and so on, setting a few poles in a piecemeal manner at an enormous cost. On this piecemeal construction, it is my idea that the method which has been used by the plaintiff in this case results in a larger figure for the reproduction cost than would be arrived at if you undertook to assume a city like Chicago today, without any telephone system at all, and you undertook to install a telephone system *de novo* in such a city. I think that it would result in a larger reproduction cost notwithstanding the added expense of putting wires
4011 into the buildings, and tearing up the streets, and everything else, which would cost so much more today.

4015 As one result of my study of the company's records for the years 1921 and 1922, and the first six months of 1923, I have ascertained the fact in respect to the average length of poles, and the average size of aerial cable which the company placed during that period on specific and routine estimates, respectively.

4016 Defendants' Exhibit X-7 includes all of the poles and aerial cable placed by the company during that period as shown by those records.

X-7 is entitled "Comparison between sizes of Plant Items Placed on Specific and Routine Estimates, 1921, 1922, 1923." From the quantities and sizes listed there, I have computed the average length of poles and the average size of aerial cable placed on specific and routine estimates.

Page 1 of Exhibit X-7 shows that on specific estimates, during the period covered by our study, the years 1921 and 1922, and the first six months of 1923, the company placed

on specific estimates 365.5 poles the half pole I assume being joint construction, joint with the Commonwealth Edison. Of those poles, the predominant size shown on 1017 the third line, was 35 feet. The next was 30 feet. Multiplying the number of poles by the length of each, and dividing the total of the extension by the number of poles, I find that the average length of poles placed on specific estimates was 33.6 feet. Similarly, on routine estimates, we found a total of 2,691 poles placed, in which again the 35 foot pole was very much the predominant length, and making the same computation as in the case of the specific, we find that the average length of poles placed on routine estimates during that period was 35.6 feet, or 2 feet longer than the average placed on specific estimates.

1018 On page 2 of Exhibit X 7, we found placed on specific estimates during this same period, 252,514 feet of aerial cable of which 51 pair was the predominant size; 169,296 feet out of the total being 51 pair.

Making the same computation as in the case of the poles, we find that the average was 77.9 pairs. Similarly, on the routine estimates, we found a total of 143,788 feet placed, of which again 51 pair is the predominant size, amounting to 97,251 feet, or well over half the total; it was well over half the total in both the specific and the routine. And making the same computation, we find that the average number of pairs in the cable placed on routine estimates was 82.9.

Exhibit X 8 entitled "Labor Hour Performance on Specific and Routine Estimates" is the exhibit to which I referred in a previous answer. This compares the company's 4019 actual labor performance on the specific and routine estimates. The purpose of the table on page 1 of this exhibit is merely to develop labor hour units at the level of the actual performance, which enter into the book cost during this period. This study covers the same period as the others, for the years 1921 and 1922, and the first six months of 1923. This period is recent enough to take into account many of the difficulties suggested a few minutes ago. The method which I have used here, and which is shown in this exhibit, is the one in general use among engineers, and is the same method as that currently used in the Bell System, in determining the level of the retirement unit costs.

Its purpose is to answer this question:

"Where the record shows simply a total figure, and also affords a list of items and quantities which result in that
4020 total figure, how may the total be distributed over the items?"

I would like to explain, because I have used it repeatedly in this and a later exhibit, the method which I have used in describing page 1 of this exhibit, and that explanation will suffice for all of the similar tables in this exhibit, since I have used the same method throughout.

First, we have a list of the items and quantities in the column headed "Quantity." That list comprises all of the items which we found in the construction records of the company, as placed in the Exchange Pole Line Account during the 2.5 year period studied, and it is summarized from the detailed tabulations we made of the materials charged to each estimate, both specific and routine. For the purpose of this table, I have thrown the specific and routine estimates together, as we actually found them on the records.

Associated with these materials on each estimate ledger sheet we found the corresponding labor hours, the labor hours which were charged to that estimate, and which were used in placing these particular material items. Those
4021 labor hours are not of course separated as between the different items, but are simply shown in total by classes of labor; and so our problem is to distribute the labor hours over the items. A summarization of these labor hours gives the total figure of 89,499 shown at the bottom of the page, the next line to the bottom. This is the total direct labor charged to these jobs, that enters into the book cost of the gross additions to Pole Line Account during that period.

The problem then is to distribute these total labor hours over the items placed in proportion to the amount of labor required for each. It is obvious that more labor will be required to set a pole than to place a cross arm, and that a 40-foot pole will take more labor than a 30-foot pole.

The question of the proper proportions to use has been a subject of intensive study for many years, and every cost engineer has made up many such tables. I have, personally, and I have seen a great many. We have a great many in

our files from different sources. For the present pur-
4022 pose I have used in the column headed "Trial Labor Hours," units which were developed in the Bell System under conditions comparable to those in Chicago. These units I have, since the preparation of this exhibit, furnished to Mr. Sloan.

The next step is to apply the Trial Labor Hours to the quantities shown. If, for example, looking at the first item, we assume for the purpose of this computation that to set a 25-foot Class A pole requires 11.41 labor hours, as shown in the column headed "Trial Labor Hours," then to set eight of them will require 91 hours, as shown in the column headed "Extension."

The 11.41 figure of course comes from the list of labor-hour units which I have just referred to. We made similar computations for all of the items in the quantities shown, applying to them the labor hours shown in the column headed "Trial Labor Hours." We then totaled the extensions, the column headed "Extension," and arrived at a total shown on the third line from the bottom of the page, of 92,280 hours as the number of hours that would have been required to set these items and these quantities, at the labor per-
4023 formance level represented by the trial units used.

Comparing that with the figure next below of 89,499, we find that our trial units are a trifle too high, since the actual performance total is 96.99 per cent of that computed from those trial units, and so in the last column we take 96.99 per cent of our trial units as the amount of labor actually required on the average to place each of these items as they were placed, under the specific and routine estimates together, during the period studied.

Page 2 is a similar computation applied to the items and quantities placed during this period, under specific estimates alone. In this table the trial units are designated as "labor hours at level of book costs," and are the units developed in the last column on page 1. The first figure shown, for example, in the trial unit column is 11.07 hours, as the labor required in the company's experience on both specific and routine estimates during this period, to set a 25-foot A
4024 pole, and that figure may be found at the top of the

last column on page 1, and is the result of the computation on page 1. Carrying the computation through in the same manner as we did on page 1, we find that on these larger jobs the company required only 85.9 per cent as much labor to perform a given operation as it did in its construction operations as a whole during this period.

The way we arrive at that percentage is by going through the same computation that I have described in reference to page 1, which gives us a total computed number of labor hours of 10,830, as compared with the actual performance shown in the next to the last line of 9,305.5. Comparing those two figures gives us the ratio of 85.9 per cent. What I found was that on the larger jobs, the company required 85.9 per cent as much labor to perform a given operation as it did in its construction operations as a whole during this
4025 period. That was in the Exchange Pole Line Account.

We then applied that figure of 85.9 per cent to the Trial Labor Hours, which are here designated as Labor Hours at the level of book costs, and obtained in the last column the number of labor hours required on an average under the level of specific estimate labor performance, to place each of the items listed. For example, on the company's performance as a whole, we found that to set a 25-foot A pole required 11.07 hours, in the third from the last column; while looking at the last column, we find that to set that same pole at the labor performance level which the company experienced on its specific estimates, required only 9.51 hours.

It follows from this, of course, that if all poles had been set at the same labor performance level as on specific estimates the company would have to charge on its books
4026 only 85.9 per cent as many labor hours as it actually did during this period on all estimates.

I made a study to determine the size of the jobs included in the specific estimates. It is shown on page 4 of this Exhibit.

On page 4 I have tabulated all of the specific estimates under which Pole Line Construction was done during this period from January 1, 1921, to June 30, 1923, and which were included in the study of labor performance under specific estimates on page 2. There are 47 of them, as shown at the

bottom of the page, of which 44, or 94 per cent, show a total expenditure in Pole Line Account during this 2.5 year period, of less than $2,500 each.

Looking at the fourth column in the lower half of the table, which is headed "Cumulative Per Cent," we find that 8.51 per cent of these estimates ran less than $25, and 21.28
4027 per cent ran less than $50. Now, these dollars that I am reading are total expenditures, material, labor supply expense, overheads, incidentals, and all the rest of them. 31.92 per cent, or nearly one-third, ran less than $100; 53.2 per cent, or more than half, ran less than $200; 72.35 per cent, or nearly three-quarters, ran less than $400.

On page 5 I found a similar result, where these same specific estimates are tabulated according to man hours. This tabulation shows that 19.1 per cent, or nearly 1/5th of the estimates, ran less than 20 man hours each; 44.7 per cent ran less than 50 hours; 59.6 per cent ran less than 100 hours; 74.5 per cent, or ¾ths of the total number, ran less than 200 hours.

Now, there is a possible criticism which may be leveled
4028 at this tabulation, and which from a question he asked me yesterday I think possibly Mr. Thompson had in mind. While this study covered a 2.5 year period, which is probably longer than the period covered by such studies ordinarily, it covered estimates which were completed over a considerable period of time, and there is a possibility that on some of the earlier estimates—some on this list were approved in 1919—a large part of the work on such estimates was done prior to the period covered by our study. It is possible even that what we picked up here was merely the tag end, the finishing up of some such estimates. It is also possible that there were estimates on this list that were approved during 1923, as shown by the estimate numbers.

It is possible that in this list we may have included some estimates which were merely started in 1923, in the six months of 1923 covered by our study, and on which the major portion of the work was done subsequent to June 30, 1923.
4029 I had that in mind, and while in this exhibit I have listed all of the estimates, because I wanted to show all of the estimates that we had used in our study of labor performance,

regardless of what work may have been done on any of them prior to or subsequent to the period covered by our study, the fact remains that work was done on those estimates during this period.

However, to meet the possible criticism, I have sorted out those estimates within the last few days and thrown out all of those estimates on which any such possibility existed.

We have thrown out all estimates in this rearrangement on which we found any work done prior to January 1, 1921. That is, I went further than the possibility of a major portion of the work, and eliminated all estimates on which any possible work could have been done, either prior to January 1, 1921, or subsequent to June 30, 1923. We also took care
4030 of the other end in this way: we did not have time available, and it would have been quite a job, to find what estimates on which we found work done during the first six months of 1923, also had work done subsequent to June 30, 1923, and so in this rearrangement for the purpose of finding out what effect that did have, I threw out all of the estimates on which we found any work done during the first six months of 1923.

In doing that of course I resolved all doubts in favor of the plaintiff, and against my computation. The result of throwing out those estimates, those on which any work was done prior to January 1, 1921, and on which any work was done during the first six months of 1923, reduced the percentage slightly. I testified that using the complete list, 94 per cent showed a total expenditure in Pole Line Account of less than $2,500. By throwing out those doubtful estimates to which I have referred, and resolving all doubts against myself, that percentage became 88.89.

4032 In referring to my last testimony, in reference to the size of the jobs covered by these estimates, the conclusion from that is this: In reproducing this property, the proportion of small jobs such as those which were illustrated by Plaintiff's Exhibit 52, would be very much less than those which were included in these specific estimates, and the labor performance should in my opinion be very much better.

Therefore, if we took as the measure of labor performance to be used in the reproduction cost estimate, the level indi-

cated by the specific estimates, which is 85.9 per cent of the actual labor hours, reflected in book cost which Mr. Sloan has used, such an estimate would be in my opinion very conservative. The remaining pages of Defendants' Exhibit No. X-8 cover a similar analysis of the company's labor performance during this period in the other two accounts studied by Mr. Sloan in Plaintiff's Exhibit No. 50.

Pages 6, 7, 8, 9, 10, 11 and 12 analyze the labor per-
4033 formance in Aerial Cable construction in the same manner with the added refinement that in order to bring out more clearly the relationship between the size of the job and the labor performance in addition to comparing the performance on specific estimates, routine estimates and total, as I did in the case of Pole Lines, we have further subdivided the specific estimates into two groups, those involving more than 1,000 labor hours, and those involving less.

The purpose of doing that of course was to bring out the fact that the larger the job, the better the labor performance. Page 6 is similar to page 1, in that it serves the same purpose in developing the labor hour units at the level of the Company's actual performance during this 2.5 year period. It is similar in all respects to page 1, covering the same ground for Aerial Cable that page 1 does for Pole Lines. It develops the level at which the labor cost during the period went on the books, and served as the basis for Sloan's appraisal. The labor hours which resulted in the book cost are shown in the last column.

4034 All of the data which I used in this table on page 6 came from the same source that I already referred to in discussing page 1. The method of computation was the same. And as in the case of the pole line tables, the labor units developed in the last column on page 6 were used as trial units in all similar tables which follow for this account. Page 7 corresponds to page 2 in the Pole Line Account, and shows that on specific estimates, as a group, the company required 91.2 per cent as many labor hours to perform a given operation as it did in Aerial Cable Construction work as a whole. Taking the first item as an illustration, 51 pair, 19 gauge cable; page 6 shows that for all of this cable placed during this period on specific and routine estimates com-
4035 bined, the company required an average of .1202 labor

hours per foot; while page 7 shows that on specific estimates alone, it required only .1096 hours per foot to place that same cable. Page 8 makes a similar computation for specific estimates involving over 1,000 hours each, and shows that on the larger jobs the company required only 88.5 per cent as many labor hours to perform a given operation as it did in its Aerial Cable Construction work as a whole. I used the word "placed." I should have said perhaps "installed" —it is to include the splicing as well as the placing proper.

Page 9 makes a similar computation for specific estimates under 1,000 hours, and shows that on the small jobs the company required 95.04 per cent as many labor hours for a given operation on all estimates, specific and routine combined.

Page 10 makes a similar computation for routine esti-
4036 mates, and shows that on these small jobs the company required 102.93 per cent as many labor hours for a given operation as in its Aerial Cable Construction work as a whole. Taking as a basis the level which resulted in the labor cost which actually went on the books, and consequently entered into Mr. Sloan's results, if all of this work had been done at the level of each of the groups studied, the resultant required labor hours would have been as follows: at the level of all specific estimates, 91.2 per cent of the actual; at the level of the larger specific estimates, those covering over 1,000 hours, 88.5 per cent of the actual. At the level of the specific estimates under 1,000 hours, the smaller specific jobs, 95 per cent of the actual. If it had all been done at the level of the
4037 routine estimates, small jobs, 102.9 per cent of the actual.

On page 11 of this Exhibit X-8, I have listed as I did in the case of the Pole Lines, all of the specific estimates on which we found Aerial Cable Construction work had been done during this 2.5 year period. That tabulation is precisely similar in all respect to the corresponding one in respect to Pole Lines. We found 103 such estimates, of which 79, or 76.7 per cent of the total number ran under the minimum figure in the record of $2,500 as shown at the bottom of the page.

Looking at the fourth column in the lower part of the table which is headed "Cumulative Per Cent," we find that 14.56 per cent of the estimates ran under $25 in the total expendi-

tures for Aerial Cable during this period; 18.44 per cent ran under $50; 22.32 per cent, or nearly one-quarter of the total number, ran under $100; 36.88 per cent ran under $200; 45.62 per cent, under $350; 53.39 per cent, or more than half, ran under $600.

I have also made a computation of the results after eliminating those jobs in which there was a possibility of work prior to January 1, 1921, or a possibility of work sub-
4038 sequent to June 30, 1923. I found that 67.86 per cent of the remaining estimates, all of which I knew had been both begun and completed within the period, ran under $2,500 each in this account. These expenditures include everything which enters into the cost of cable, messenger, terminals, and so forth—complete, in place, ready for service.

Page 12 groups these same estimates by labor hours, and shows that more than one-quarter of them involved less than 50 man hours each, more than one-third of them less than 100 hours, and more than one-half of them less than 200 hours. That table of course is put in for the purpose of illustrating the same conclusion as the one on the preceding page, in that it shows that the majority of these estimates cover
4039 small jobs, such as those illustrated in Plaintiff's Exhibit 52.

Account 245, Exchange Underground Cable, is a much more difficult subject for study because it includes at least four distinct groups, each of which has its distinctive peculiarities of working conditions. Those four groups are: Main Subscribers' Cable—which in the present classification is designated as 15-C; Trunk Cable, 45-C; Subsidiary Cable, which is 25-C, and House Cable, or Building Cable, which is 35-C.

The Company now separates these groups on its records, but at the time covered by this study, from 1921 to 1923, it made only a broad separation, to which I referred yesterday, between underground cable proper, Code 5-C, and house cable, Code 35-C, and since these two groups are wholly dissimilar in the conditions under which the cable is installed, I have treated them separately in this exhibit.

Pages 13, 14 and 15 are similar in form and purpose to pages 1 to 6. They develop the labor hour units at the level of the company's actual experience as embodied in its

4040 book cost on all cable installed under Code 5-C during that period. As in the preceding cases, these units were used by me as a basis of comparison with the labor hour performance on specific and on routine estimates.

Pages 16 and 17 make a similar study of specific estimates under Code 5-C, and show that on specific estimates the company required only 81.06 per cent as many labor hours to perform a given operation as it did on specific and routine estimates combined, in the proportions in which they were combined of course during this period in the company's experience.

Pages 18 and 19 show that on the smaller jobs covered
4041 by the routine estimates, it required 175.99 per cent, or more than double the number of labor hours required for the specific estimates.

606 pair, 22-gauge cable we found placed in large quantities on both specific and routine estimates. On specific estimates we found that it required on an average .4115 labor hours per foot, which is shown about the middle of the last column on page 16, on specific estimates.

When it was installed on routine estimates, the same cable, we find on page 18 that it required .8935 hours, or as I said before, more than twice as much labor to install that same cable on routine estimates as on specific. That is, the same cable when installed on the routine estimates, required a little more than twice as many labor hours as on the specific estimates.

Page 20 lists the specific estimates on which underground cable was installed under Code 5-C, and the total ex-
4042 penditures in this account under each estimate during this period. There is this particular point to which I would refer in connection with this table: It must be borne in mind that in this account we are dealing with much larger units of plant installed under more costly conditions than in the case of aerial cable, and the expenditures under each estimate are correspondingly higher. Even so, we find that nearly half, or 49.40 per cent, of these estimates as shown in the column at the bottom of the table, the column headed "Cumulative Per Cent," in the lower table, showed total charges in this account during this 2.5 year period of less

than the $2,500 minimum which has been previously referred to in the record; more than one-fifth of them, or 21.28 per cent, ran less than $350; more than one-third of them, or 34.14 per cent, ran less than $1,000.

Now, those small amounts will not cover any considerable underground cable job, and if we bear in mind the more
expensive character of this type of plant, we see that
4043 even here the specific estimates include a large proportion of small jobs, a conclusion which is supported by the corresponding tabulation of labor hours on page 21.

I have made a tabulation with respect to this account, eliminating all of the estimates on which a portion of the work might possibly have been done before January 1, 1921, or subsequent to June 30, 1923. I found as to the balance that of the remaining estimates, all of which I knew were both started and completed within this period, of those estimates 46.75 per cent ran under $2,500 in this account.

The remaining tables in this Exhibit X-8 cover a similar analysis of house cable, Code 35-C. The peculiarity with reference to that account is that each job is in a class by itself,
and differs from every other job. It is all what you
4044 might call custom work, all special; and while there are minor additions and rearrangements from time to time, for practical purposes we are bound to assume that in reproducing this plant, the cabling of each building would be done very much as it has been done, at about the same level of labor performance. We will probably save a little, but not much. Splicing is a larger factor than in either Aerial Cable or Underground Cable proper, and the larger jobs usually involve more elaborate splicing layouts than the smaller. Probably, I think for that reason, the larger jobs covered by specific estimates require slightly more labor hours per foot of cable installed than do the smaller jobs under routine estimates. While some economies could be anticipated in reproducing the plant as a whole, due to keeping the gangs more uniformly busy during the construction period, as well as for the reasons I just stated, there is no basis on which this saving could definitely be evaluated, and for the purpose
of this case we have disregarded it.

4045 I have prepared a further exhibit showing the combined effect on the results shown in Defendants' Exhibits X-6 and X-8. Defendants' Exhibit X-9 which is entitled "Comparison between company experience on its larger construction projects and Plaintiff's Exhibit Number 1," was prepared under my direction.

Page 1 of Exhibit X-9 is the same in form, arrangement and method as page 1 of Defendants' Exhibit X-6, the only difference between them being that this table in Defendants' Exhibit X-9 includes the added factor of adjusting the labor performance to the level experienced by the company in its specific estimates, the labor performance which I have just been discussing in connection with the preceding exhibit, while Exhibit X-6 takes the labor performance without adjustment as it was actually experienced on specific and routine estimates combined in the proportions found during the years studied.

4046 This exhibit therefore is intended to show the results Mr. Sloan would have gotten in these accounts for these years if he had used the company's actual experience in respect to material and labor costs, and if he had eliminated the piecemeal construction represented by the routine estimates, and which in the opinion of Mr. Wray and myself, would not be experienced in reproducing this plant.

As shown in the last column of the table, these results range from 80 to 96 per cent of the results that he did arrive at in Plaintiff's Exhibit 1. And the difference is due to the factor of the actual experience under the specific estimates rather than specific and routine combined.

"Judge Wilkerson: Do you wish to take up at this time, Mr. Goldstein, your motion in connection with the study you referred to?

4047 Mr. Goldstein: Yes.

Judge Wilkerson: Just what is the motion?

Mr. Goldstein: Mr. Gregory on cross-examination—on direct examination testified that the item of $3,000,000 appearing on the books of the Electrical Research Products as a deferred receivable—

Mr. Bracelen: This is in reference to—the memorandum—previously referred to? Your Honor, I had been under a

misapprehension. I thought that at the hearing on May 3rd before your Honor and Judge Evans, when Judge Evans announced the ruling of the court at the close of the hearing, this part of the motion had been denied. I find I was in error. I find that what actually was done was for the court to reserve ruling. That indicates that the court had some doubt at least about the merits of the objection, and that being so—

Judge Wilkerson: Well, we took that up a little later
4048 —and I made an announcement—was it not on that?

Mr. Bracelen: No, not on that. It was on another matter, in connection with another matter. Now that being so, we will produce the study.

Judge Wilkerson: Very well.

Mr. Goldstein: May I ask when?

Mr. Bracelen: Pardon me.

Mr. Goldstein: When? We would like to have it before we introduce our Western Electric testimony, so that we can at least look at it.

4048 Mr. Bracelen: You may have it at any time; do you want it now.

Mr. Goldstein: Oh, no; just so that we can have it at any time."

This study of course covered only the two and a half
4049 year period. What the results would be in other years, I have no means of knowing. The exhibit shows in the last column—comparing the percentages in the last column on page 1—shows the same trend away from the base
4050 point of June 30, 1923, that we found in Defendants' Exhibit X-6. That is, the difference between what it would have been under the company's experience on the specific, and Plaintiff's Exhibit 1 becomes greater as you go back further from June 30, 1923. The difference in 1921 is greater than in 1922, and 1922 is greater than 1923. All of the other tables in this exhibit are supporting tables which underlie page 1.

4051 Pages 2, 3 and 4 show the derivation of the pole line figures which are shown in the column headed "Company experience" on page 1, which was taken from the lower part of the table on page 2. The table on page 2 is in the

same form as the corresponding table on page 6 of the Defendants' Exhibit Number 6 except for the changes in the percentage and amounts of increase or decrease, June 30, 1923, over the previous period, which are indicated by the company's experience. These changes are due wholly to the inclusion in Defendants' Exhibit X-9 of the adjustment in the level of labor performance which is indicated in Defendants' Exhibit X-8.

Page 2 shows that comparing the percentages shown in the second and third lines of figures, in 1921, we find that including this additional factor of labor performance which was brought out in Defendants' Exhibit X-8, the level 4052 on June 30, 1923, was 24.71 per cent lower than the level which went on the books, that resulted in book figures, in 1921 as compared with Mr. Sloan's corresponding percentage of 5.99. In 1922, the June 30, 1923, level was 17.52 per cent lower than the figures which resulted in book cost during 1922, while Mr. Sloan used an increase of 2.09. In other words, we would show a decrease of 17.52 compared with Mr. Sloan's increase of 2.09.

The difference between our figures here, and in Defendants' Exhibit 6, are due to the added factor of using the specific estimates instead of the routines. Part of the difference shown between our percentages and those of Mr. Sloan of course is due to the results worked out in Defendants' Exhibit Number 6.

In the six months' period from January to June, 1923, 4053 we show a decrease developed from the company's experience on its specific estimates of 13.37 per cent as compared with Mr. Sloan's increase of 1.96 per cent. In the last column I have brought the figures together to get an over-all picture covering the entire period, and the composite there shows on the basis of the company's experience on its specific estimate labor performance, the June 30, 1923, level on the books used by Mr. Sloan was 17.83 per cent—or the percentage we arrive at is a decrease of 17.83 as compared with Mr. Sloan's increase of .39 per cent. Page 3 of this exhibit is similar to page 7 of Defendants' Exhibit Number 6, and it shows the development from the material and labor indices of the composite percentage of increase or decrease which on page 2 is applied to gross additions to reduce them

to the cost level of June 30, 1923. On page 3, the percentages of increase or decrease in material costs are the same as those on page 7 of Defendants'-Exhibit Number 6. That 4054 is because material costs are practically unaffected by piecemeal construction, while the corresponding percentage for labor is changed by the adjustment in labor performance. The effect of that is to show a much larger decrease in the labor cost than is shown in Defendants' Exhibit 6 and consequently a larger decrease in the composite.

Page 4 shows this adjustment in labor hours and labor costs, and the percentages on the last line are those used in the second line of the table on page 3. The labor hours as shown are totaled from all of the specific and routine estimates in which we found work done in the Exchange Pole Line account during the period studied.

In 1921 for example we found 1,856 labor hours charged to specific estimates in this account, and 12,351 labor hours charged to routine estimates, or a total of 14,207 hours. As in the cases previously discussed, this represents all of 4055 the estimates which we found covering work done during this period. Since Defendants' Exhibit X-8 shows that specific estimates required only 85.9 per cent as many labor hours to perform a given operation in this account as did specific and routine estimates combined, and since as I have stated the data in that exhibit lead to the conclusion that in reproducing this plant we could reasonably expect at least as good labor performance as the company experienced under its specific estimates, I have taken 85.9 per cent of the actual labor hours as the amount which would be required at the labor performance level of specific estimates.

That resulted in reducing the number of labor hours, as shown on the next line, to 12,203.81. I then priced out these labor hours at the rate of $.8459, which as I testified yesterday was the average direct labor cost per hour on the specific estimates in this account as of June 30, 1923. That gave me a direct labor cost at the level of June 30, 1923, amounting to $10,323.20. To this direct labor cost at the level 4056 of June 30, 1923, I then added Plant Supervision and Tool expense at the percentages found in Mr. Sloan's exhibit, Plaintiff's Exhibit 1, and a comparison of the total labor costs thus computed, which amounted to $11,180.03 at

the labor performance level of the specific estimates, with the actual labor cost, which was shown in Defendants' Exhibit X-6, which amounted to $16,997.17—a comparison of those two figures gives the percentage of decrease on June 30, 1923, under the previous periods, which is shown in the last line, and amounts to 34.22 per cent. The other two columns of course are computed for the other two years in the same way.

Pages 5, 6 and 7 of this exhibit cover the Exchange Aerial Cable, and the treatment is the same as on pages 2, 3 and 4, with the single exception that, for the same reason as in the
treatment of this account in Defendants' Exhibit X-6, I
4057 have treated the two operations of placing and splicing separately, and then combined the results. That computation is shown on page 7. Page 5 shows that by reason of the adjustment in labor performance, the decrease in cost indicated by the company's experience was 23.24 per cent in 1921 as compared with Mr. Sloan's decrease of 9.67, those figures appearing on the second and third lines of figures on page 5. In 1922 the company's experience indicates a decrease of 6.62 per cent as compared with Mr. Sloan's increase of 25 per cent. In 1923 the company's experience indicates a decrease of 4.78 per cent as compared with Mr. Sloan's increase of 1.96 per cent; while for the entire period as shown in the last column, the company's experience indicates a decrease of 9.24 per cent as compared with Mr. Sloan's decrease of .04 per cent.

Pages 8, 9, 10 and 11 cover Exchange Underground Cable in a similar manner, with an additional refinement, that for
the reasons I have discussed in connection with the
4058 treatment of this account in both Defendants' Exhibits X-6 and X-8, it was necessary to treat Code 5-C and Code 35-C separately. Pages 8 and 9 are the same in form and treatment as pages 2, 3, 5 and 6, and give for this account the same information that those pages do for the Pole Lines and Aerial Cable. On page 9, where the composite decreases in material and labor costs are developed, the percentages of increase or decrease in material costs are the same as in the corresponding table on page 15 of Defendants' Exhibit X-6, while the development of the other percentages

used in arriving at the composite result on page 9, is shown on pages 10 and 11.

4059 Page 9 shows in the first line the percentage decreases in material which, as I have stated, is the same as in X-6. The second line shows the decreases in the labor cost, and the next two show the proportions of material and labor. In this case, and I think in the preceding corresponding tables, the footnote shows that there was a slight adjustment made in the proportions of material and labor.

Page 8 shows the difference between gross additions developed from the company's experience after eliminating the small jobs, and Plaintiff's Exhibit 1. It is set up in the same form as the corresponding tables which I have discussed, and shows in the second and third lines that by reason of the adjustment in the labor performance, the decrease in cost indicated by the company's experience, was 14.04 per cent in 1921 as compared with Mr. Sloan's decrease of 6.33 per cent. In 1922 the company's experience indicates a decrease of 3.44 per cent as compared with Mr. Sloan's increase of 4.73 per cent.

4060 In 1923 the company's experience indicates a decrease of 1.94 per cent as compared with Mr. Sloan's increase of 2.22 per cent; while for the entire period the company's experience indicates a decrease of 5.42 per cent as compared with Mr. Sloan's increase 1.43 per cent. The figures that I have been reading are the figures appearing in the second and third lines on page 8 of this exhibit. Where I have the brackets, that indicates a decrease.

Page 10 shows three tables designated as "Distribution of Labor Costs," "Composite Percentages—Labor" and "Composite Percentages—Total." The first three lines in the first table entitled "Direct Labor Charges, Code 4061 5-C, Code 35-C and Total," are taken directly from the company's construction records. They show the total labor hour charges which I found to this account during the years 1921, 1922 and the first six months of 1923. In the fourth line and fifth line, charges to Codes 5-C and 35-C are reduced to percentages of the total. These percentages are used as weighting factors in the second table on this page. In the second table entitled "Composite percentages—Labor," the first line shows the per cent decrease in labor

cost levels June 30th, 1923, under previous periods for Code 5-C, which percentages are taken from page 11. The second line shows the corresponding percentages for Code 35-C which are taken from our working papers underlying
4062 Defendants' Exhibit X 6. For the reasons discussed in connection with my discussion of Defendants' Exhibit X-8, the percentages for Code 5-C include an adjustment to the labor performance level of specific estimates, while the percentages for Code 35-C do not. The third and fourth lines show the weighting factors which are the percentages of labor cost under Codes 5-C and 35-C, respectively, as developed in the first table on this page. The fifth line is the first line multiplied by the third; the sixth line is the second line multiplied by the fourth; and the last line is the sum of the fifth and sixth; and therefore is the composite percentage of Codes 5-C and 35-C, weighted according to the actual labor charges to these two codes respectively. It also reflects the improved labor performance on specific estimates, on 5-C. Then this composite percentage is used in the second line of the Table on page 9.

The third table entitled "Composite Percentages—Total" is for the purpose of developing the "percentages of total cost—material" and the "percent of total cost—labor" which are used on the third and fourth lines on the table on page 9.

4063 In respect to this last table, it was necessary to develop our own proportions of material and labor. In the case of Pole Lines and Aerial Cable, I used Mr. Sloan's proportions, with minor adjustments, to reflect the decrease in labor hours resulting from improved labor performance on specific estimates. In this account I could not do that because while Codes 5-C and 35-C differ substantially, both in their labor performance and in their respective proportions in this account from year to year, Mr. Sloan developed his percentages for the account as a whole.

It was therefore necessary for me to develop corresponding percentages for Codes 5-C and 35-C, separately, which I did from the company's construction records, grouping the material and labor charges in the same way that Mr. Sloan did in computing his percentages. These percentages are shown in the first four lines of figures in this table.

4064 For the reasons I have stated, I would expect in reproducing this property, a labor performance in Code 5-C at least as good as that experienced in the specific estimates, while in Code 35-C I would expect a labor performance more nearly comparable to that experienced in specific and routine estimates combined. For that reason in developing these percentages I used specific estimates only in the case of Code 5-C but specific and routine combined in the case of Code 35-C. For the year 1921, I found that 69.9 per cent of the expenditures in Code 5-C under specific estimates were for material, and 30.1 per cent for labor, while in Code 35-C, 38.6 per cent of the total expenditures under specific and routine estimates combined were found by me for material, and 61.4 per cent were for labor.

My next step was to weight those two sets of percentages in proportion to the total expenditures for Code
4065 5-C and Code 35-C, respectively. Then from the construction records I found that the expenditures under Code 5-C amounted to 70.1 per cent of the total in the underground cable account, and the expenditures under Code 35-C, only 29.9 per cent. The computation of 70.1 per cent of 69.9, gave me 49, and 29.9 per cent of 38.6 is 11.5, and I added those two together, to give the result of 60.5 per cent as the composite per cent of material in this account which I used. Similarly 70.1 per cent of 30.1 is 21.1, and 29.9 per cent of 61.4 is 18.4 and I summed those up to give 39.5 as the composite per cent of labor, which I used. These percentages are used on page 9 to weight the material and labor indices into the composite, which on page 8 I apply to the gross
4066 additions to reduce them to the cost level of June 30th, 1923.

On page 11 I have developed the percentage of decrease in labor costs in Code 5-C on June 30th, 1923 under previous periods, which in the second table on page 10 I have combined with the corresponding percentages for Code 35-C to obtain the "Per cent of Increase—Labor" for the underground cable account as a whole, which I have used on page 9.

The form and method which I have used on page 11 are the same as those used on page 7 for Aerial Cable, and differ from those used on page 4 for Pole Lines only in that, for the same reason as in the case of the Aerial Cable, I worked

up placing and splicing costs separately, and then combined the results on the basis of the respective expenditures for these two operations. The explanation I have made with respect to the two preceding accounts will explain the computation here as well.

4067 In Exhibits X-6, X-8, and X-9, I have limited my adjustments to these three factors of material cost, labor cost as affecting the percentage of increase, and labor performance on specific and routine estimates as affecting the book costs in order that the results might be strictly comparable with Plaintiff's Exhibit Number 50. In all other respects I have followed the same methods and used the same data that Mr. Sloan did in Plaintiff's Exhibit 50, without conceding the soundness of his method of course.

Defendants' Exhibit X-10, entitled "Material and Labor Ratios used in Plaintiff's Exhibit Number 1, and A-2 to A-10, inclusive," represents a tabulation for comparative purposes of all the proportions of material and labor as used by Mr. Sloan in the Exchange Outside Plant Accounts, for the entire period from 1911 to 1931.

4068 I will explain what Defendants' Exhibit X-10 shows. From 1911 to June 30th, 1923, the figures in the first two columns in each account which are headed respectively "% Material" and "% Labor" are copied directly from Plaintiff's Exhibit Number 1. From July, 1923, to the end of 1931 all of the figures in those same columns are copied from Plaintiff's Exhibits A-2 to A-10, inclusive, except in the case of the Pole Line account, where Mr. Sloan changed his method in the later exhibits as I have stated in the footnote on this page, that change being this, that in Plaintiff's Exhibit 1 he showed two groups of expenditures, material and labor. In Plaintiff's Exhibits A-2 to A-10, inclusive, he shows three groups, material and labor on the company's work, and a third item representing joint with Commonwealth Edison.

For that reason in order to make the figures subsequent to June 30, 1923, comparable with those prior to that date, I had to take the first two groups, "Per cent Material," and "Per cent Labor," on the work performed by the company, and develop the ratios between those two groups, and those are the ratios shown in the column headed "% Material"

and "% Labor" in the Exchange Pole Line account, subsequent to June 30, 1923.

The third column in each account, which is headed "Per cent Labor of Material" we have computed by dividing the second column by the first in order to simplify the comparison between the two. Comparing the first half of 1923 with the second half of 1923, this exhibit shows that the per cent that labor was of material in the Pole Line account, dropped from 249.6 to 99.2; whereas in Aerial Cable, it increased from 73 to 104.5 and in Aerial Wire it dropped from 135.8 to 95.3. In Underground Conduif it rose from 203.8 to 262.3 and "Underground Cable" is the only account where the ratio is at all similar.

4070 Of course, in the second half of 1923 as compared with the first half of that year, there were some changes in both material and labor costs as indicated by a comparison between Plaintiff's Exhibit 1 and Plaintiff's Exhibit A-2, but I do not think that they alone would account for the striking differences shown in this tabulation. I have only partially investigated the records of the company to find the reason for these differences. It would be quite an undertaking to make a complete investigation, for which time has been lacking since this exhibit was prepared. I just received from a man working under my supervision, a partial answer to the question this morning, prior to coming to court.

4071 I sent over to the company the man who had pulled off the dollar totals from the estimate ledgers and asked him to get certain breakdowns, which he handed to me this morning. This relates only to Account 241, Exchange Pole Lines. The summaries which were prepared from our working papers, which in turn were pulled from the construction records of the company, show in 1921 the following charges to Exchange Pole Lines account: On specific estimates, for material, $3,601.53; for supply expense $397.14; for direct labor, $1,930.79; for overheads $704.76; and for incidentals, including Stable and Garage and Sundry Disbursements, $373.24; or a total of $7,007.46.

The point to which I would call your attention there is that the charge for incidentals amounts to about 1/6th of the direct labor charge on specific estimates, which is a pro-

portion comparable to that which we often find. Now, in the routine estimates we found an entirely different situation.

The charge for material on routine estimates in this
4072 account during 1921 amounted to $20,308.29; for sup-
ply expense $2,240.76; for direct labor, $13,395.78; for overheads, $4,746.60; and for incidentals $38,147.34.

Comparing the figure for incidentals with that for direct labor, we find that the incidentals amounted to a good deal more than twice, nearly three times the charges for direct labor as compared with one-sixth in the case of specific estimates.

Now, under the working conditions in Chicago, it is of course impossible that incidentals should amount to three times the direct labor cost, and so what I asked Mr. Bradish to get was a breakdown of those incidental figures. We found the same sort of result, by the way, in the other two years. In 1921 the figure for incidentals which I have just read amounted to $38,147.34, and of that amount $33,058.17
represents Commonwealth Edison bills on joint con-
4073 struction, in other words, the factor that in Exhibits
A-2 to A-10 Mr. Sloan has set up separately, he did not in Plaintiff's Exhibit 1. That is, in Plaintiff's Exhibit 1 he included, in his labor factor incidentals amounting to $38,000, and of that $38,000 I found $33,000 did not represent labor, but represented Commonwealth Edison bills for joint construction. By including that amount as direct labor it would throw all of his labor factors out of gear. In 1922 the result was very similar. On specific estimates we found material charges amounting to $6,167.75; supply expense $561.91; direct labor, $6,586.93; overheads, $1,863.09, and
incidentals, $1,271.65. Again the incidentals on specific
4074 estimates run approximately one-sixth of the direct
labor. On routine estimates we found: Material, $46,298.91; supply expense, $4,216.92; direct labor, $42,444.42; overheads, $11,343.02; and incidentals, $86,527.53. Again the incidentals are more than twice the charges for the direct labor.

Now, of those incidentals amounting to $86,527.53 we found $76,718.20 representing Commonwealth Edison joint construction bills. That is $76,000 out of the $86,000, of incidentals which Mr. Sloan has considered as in his labor fac-

tor, and the $86,000 twice as much as the direct labor—I found that $76,000 was not for labor, but represented bills of the Commonwealth Edison Company for joint construction.

Now, if you take that $76,000 out, it leaves about $10,000 for incidentals, which is about one-quarter of the direct labor, instead of twice as much as the direct labor.

4075 In 1923 we found the same situation. On specific estimates we found: Material amounting to $3,592.27; supply expense, $58.60; direct labor, $621.63; overheads, $149.04; incidentals, $115.82. Incidentals again were approximately one-sixth of the direct labor on specific estimates.

Under routine estimates we found: Material, $28,638.43; supply expense, $2,336.11; direct labor, $22,686.97; overheads, $5,438.56; and incidentals, $56,112.16. Again the incidentals are well over twice the direct labor.

Now, for that six months' period of the $56,112.16 incidentals we found $49,254.53 in Commonwealth Edison construction bills—joint construction bills. That is again, $49,000 of bills included in $56,000 of incidentals which Mr. Sloan used in compiling his labor factor as labor, I found were not labor, but represented Commonwealth Edison bills for joint construction.

4078 Thus far my exhibits have covered the period up to June 30, 1923.

4079 Defendants' Exhibit X-11, which is entitled "Labor Hour Performance on Specific Estimates, 1929," is the study of the specific estimates of the company's construction experience in 1929.

I selected 1929 for the study because that was the latest year during which construction was carried on under fairly normal conditions. During 1930 and 1931 the abnormal business conditions, both here and elsewhere, affected construction costs to such an extent that the results obtained during those years could not be taken as indicative of what might be expected in more normal times.

Defendants' Exhibit X-11 was prepared by me, and under my direction. It sets forth the result of my study of
4080 labor performance during 1929. All the data, except

the trial labor units which resulted from the earlier studies set forth in Defendants' Exhibit X-8, were taken from the company's construction records. It covers the same accounts as Defendants' Exhibit X-8, except exchange pole lines. That was omitted because there was practically no work done under specific estimates in that account during 1929.

I believe there were eleven specific estimates, involving a total expenditure of $159.72, and including 47½ hours. I set up Defendants' Exhibit X-11 in the same form and used the same method of computation as in the case of Defendants' Exhibit X-8. The explanation as to the form and method which I gave in connection with Defendants' Exhibit X-8 would cover Defendants' Exhibit X-11 as well.

4081 The first column on page 1, for example, lists the items, and the second column the quantities of those items which the company placed in the aerial cable account during 1929 as shown by its specific estimate ledger sheets. The figure of 9,242 shown at the bottom of the page is the total number of labor hours actually used in placing those items and quantities of material, as shown by those same specific estimate ledger sheets. The third column is headed "Labor hours at level of specific estimate 1921-22-23."

These units, which I have used in this study as trial units, resulted from the earlier study set forth in Defendants'

4082 Exhibit X-8. For all items of material which were placed both during 1929 and during the period 1921-2-3—and that includes nearly all the list—the labor hour units shown in the third column on page 1 of Defendants' Exhibit X-11 were taken from the last column on page 7 of Defendants' Exhibit X-8, where they were developed to show the average number of labor hours which, during that period, the company required to place a unit quantity, such as a foot of cable, of each of the items there listed.

I believe that in 1929 we found a few items which were not placed during the earlier period, and which consequently do not appear in Defendants' Exhibit X-8. As I recall it, we found a few special terminals, and things of that sort, and a few sizes of cable, I am not sure of the latter. For such items we referred to the original list of trial units which we had used in the preparation of Defendants' Ex-

hibit X-8, adjusted the units to the same level and used
4083 them in Defendants' Exhibit X-11. For the last two
columns on page 1 of Defendants' Exhibit X-11, my explanation would be the same as I have previously given for the corresponding columns in Defendants' Exhibit X-8.

Totaling up the column headed "Extension," we find that at the labor performance level of the company on its specific estimates during the 1921-2-3 period it would have required 14,595 labor hours to place the aerial cable which it did place on specific estimates during 1929.

On the next line, however, we find that it actually required, during 1929, only 9,242 labor hours to place that cable, or 63.32 per cent as many as would have been required at the labor performance level of the period 1921-3. That is, as to the specific estimates, in using the 1929 experience, it would have taken 63.32 per cent of the amount of labor hours to perform the same job as it took in 1921-1922 and '23.

In the last column I have reduced the labor hour
4084 units to 63.32 per cent of their value during the earlier
period and find, for example, that while during the 1921 to '23 period the company required .2114 labor hour per foot of 300 pair 19 gauge cable, during 1929 it required only .1339 labor hour per foot to place that same size of cable.

I stated before that during the 1921-22-23 period the company divided its underground cable, account 245, between two sub-accounts, 5-C and 35-C, 35-C being house cable and 5-C all the rest of the account, and that it has since subdivided 5-C between 3 sub-accounts. These three sub-accounts are the ones listed as 15-C, 25-C and 45-C in the heading of page 2 in Defendants' Exhibit X-11. I have added them together here in order that this exhibit may be on the same basis as Defendants' Exhibit X-8. I believe Mr. Sloan did the same thing in Plaintiff's Exhibit A-2 to A-10,
inclusive. So that pages 2 to 5, inclusive, of Defend-
4085 ants' Exhibit X-11 relate to the construction of the
same class of plant as pages 16 and 17 of Defendants' Exhibit X-8.

The data on these pages, which relate to underground cable, are taken from the same records and the computations are made in the same manner as in the case of aerial cable. The comparison is made at the bottom of page 5, and shows

that during 1929 the company required only 94.59 per cent as many labor hours in its underground cable construction as it would have required if its labor performance had been the same as it was during the 1921 to 1923 period. In the last column I have, therefore, adjusted the labor hour units to the 1929 level by taking 94.59 per cent of the 1921, '22, '23 units. The purpose of the remaining pages of this exhibit is the same as that of pages 4, 5, 11, 12, 20 and 21 of Defendants' Exhibit X-8, in showing that during 1929,
4086 as during the earlier period, the majority of the specific estimates cover small jobs such as those referred to by Mr. Sloan in connection with Plaintiff's Exhibit No. 52.

Page 6 shows that in the case of aerial cable 83.87 per cent of the total number of estimates involved during 1929 a total expenditure in this account of less than the $2500 minimum which has been referred to. These figures are specific estimates, as before. Page 8, treating of underground cable, shows that in the case of main underground cable, which includes much the largest construction projects of any of the cable accounts, 54 per cent of the estimates ran under $2500 each during that year. While page 10 shows that in the case of subsidiary cable—page 9, of course, is similar to page 8, and sets up the labor hours instead of the dollars—page 10 shows that in the case of subsidiary cable 96.15 per cent of the estimates ran less than $2500, and nearly three-fourths of them ran less than $250, that is, 71.15 per cent.

4087 Pages 7, 9 and 11 make the same sort of comparison, on the basis of labor hours, and lead to the same conclusion. I do not show a similar analysis of 45-C, trunk cables, because while I had to include that sub-account with the other two in fixing the level of labor performance during 1929 in order to get an answer comparable with that for the 1921 to '23 period, when the company included it in 5-C, it was not referred to in Plaintiff's Exhibit No. 52, or in Mr. Sloan's testimony relating thereto; and, like house cable, it would probably be reproduced in much the same way that it was actually placed. The exhibit shows that changes in labor efficiency, labor productivity, or output per man hour are substantial. That such changes are not offset, as has been testified by Mr. Sloan, by increased construction diffi-

culties, because during this period the figures shown
4088 here are net, they are not the net result of such in-
creased labor productivity and the increased construc-
tion difficulties which may have partially offset them.

That is, whatever construction difficulties there were, were taken into account in arriving at this result.

Defendants' Exhibit X-12, entitled, "June 30, 1923 Portion of December 31, 1929 Appraisal, Priced on Basis of Wholesale Construction and 1929 Material and Labor Cost Levels," was prepared under my direction.

I have applied, in this exhibit, to the aerial and underground cable accounts,—the same account that I have just discussed in connection with Exhibit X-11,—the percentages of increase from year to year, as those percentages are given in Plaintiff's Exhibit A-2 to A-8, inclusive, in order to reduce to the cost level of December 31, 1929, that portion of Mr.
Sloan's appraisal as of that date in Plaintiff's Exhibit
4089 A-8, which represents his appraisal of those accounts
as of June 30, 1923 in Plaintiff's Exhibit 1.

In this exhibit I have also applied to those same appraisal figures from Plaintiff's Exhibit No. 1, two further adjustments in respect to labor performance which resulted from my studies of that subject as set forth in Defendants' Exhibits X-8 and X-11; the former reflecting the adjustment due to specific and routine estimates of the 1921 to '23 period, the latter reflecting the improved labor performance during 1929. Those two computations are brought together for comparison on page 1 of Defendants' Exhibit X-12.

On page 1 the figures in the column headed "Appraisal method" are Mr. Sloan's June 30, 1923 appraisal of these accounts as shown on page 2 of Plaintiff's Exhibit No. 1—
after adjustment to the cost level of December 31, 1929
4090 by means of the percentages of increase and the pro-
portions of material and labor which are shown in Plaintiff's Exhibits A-2 to A-8, inclusive.

In making this adjustment, I have used only data from Plaintiff's Exhibits Nos. 1 and A-2 to A-8, inclusive, and have also used Mr. Sloan's method of compositing material and labor indices, because in this column I wanted to arrive at the same figures that Mr. Sloan would if he made the computation from his data and by his method.

In the column headed, "Company experience," I have made two further adjustments. The first was to eliminate, or at least minimize, the effect of piecemeal construction by using the level of labor performance which was experienced by the company in its specific estimate construction during the 1921 to '23 period as shown by Defendants' Exhibit X-8. To the result of that adjustment I then applied the ratio between the labor hours actually required in the specific estimate performance during 1929 and those which 4091 would have been required at the level experienced during the earlier period, which ratio is developed in Defendants' Exhibit X-11.

The figures shown in that column represent what that plant would have cost if built in a manner more nearly comparable to a reproduction project, at the cost level prevailing on December 31, 1929 and under the conditions of labor performance which prevailed during that year. When I say, "What it would have cost," I mean, on the assumption that Plaintiff's Exhibit Nos. 1 and A-2 to A-8, inclusive, are correct in what they purport to show, and that the company's construction records, and Defendants' Exhibits X-8 and X-11 compiled and computed therefrom are correct in respect to labor performance.

This exhibit purports to show what the 1923 portion of the 1929 appraisal would have been at the level of the 4092 1929 specific estimate labor performance. That takes into account, of course, the dollar changes in material, as well as in labor.

The first column on page 1 shows the amounts at which the June 30, 1923 appraisal of these accounts is, under Mr. Sloan's procedure, included in his December 31, 1929 appraisal. The second column shows the amounts at which they would have been included, if he had used the labor performance level which actually prevailed during 1929, and if he had eliminated such piecemeal construction as would not be experienced in reproducing this property. The difference between the two columns is, for these two accounts alone, practically three million dollars. That is, Mr. Sloan was three million dollars higher than what it would have been by my method. In the third column I show the per- 4093 centage that the company experience was of Mr. Sloan's

appraisal method. This is the same arrangement, of course, that was used in Plaintiff's Exhibit No. 50, and in Defendants' Exhibits X-6 and X-9.

I have followed that arrangement to facilitate comparison. If expressed the other way, that is showing the percentage by which Mr. Sloan's appraisal method is in excess of the company's experience, that would show, for aerial cable, that Mr. Sloan's appraisal method as set up in the first column here was 35.05 per cent higher than would be justified by the company's experience; for underground cable, 8.98 per cent higher, and for the two combined, 12.37 per cent higher.

Page 2 shows the derivation of the aerial cable figures which appear on page 1. On page 2, the figure on the first line of $3,885,604 is copied from Plaintiff's Exhibit No. 1,
page 2, and there represents Mr. Sloan's appraisal of
4094 that account as of that date. On the second line, I show the ratio of the December 1, 1929 cost level to the cost level used by Mr. Sloan as of June 30, 1923; first, as computed from the percentages of increase shown in Plaintiff's Exhibit A-2 to A-8, inclusive; and, second, in the second column, as that ratio appears after making the further adjustments for piecemeal construction and for labor performance, which I have described. In the third line I have applied those ratios to the figures shown in the first line in order to compute the figures which are used on page 1. The last two lines are merely a comparison between the results of that computation.

Pages 3 and 4 show the derivation of the ratios used on page 2. That is, in the column headed, "Sloan," on page 3, the first two figures in that column are the ratios of the 1929 to the 1923 cost of material and labor, which result
from the percentages of increase as shown in Plaintiff's
4095 Exhibit A-2 to A-8, inclusive. There are several blanks, and the next two figures are the proportion of material and labor which are used in Plaintiff's Exhibit A-8 for the total plant. The last line is the composite computed from the figures above by Mr. Sloan's method, which both he and I described.

In the column headed "Wray," I use in the first two lines the same ratios of material costs and of labor costs as before. I used the material ratio without change because it would

not be affected by either piecemeal construction or labor performance, but the labor ratio I subject to the two adjustments which I described. I adjusted it first for piecemeal construction by multiplying it by .912, which appears on page 7 of Defendants' Exhibit X-8 as the ratio of specific estimate labor performance to specific and routine com-
4096 bined at the time of the 1923 appraisal. Then multiply that result by .6332, which appears on page 1 of Defendants' Exhibit X-11, as the ratio of the number of labor hours required in 1929 to those required at the level of the labor performance during the earlier period. That gives 74.15 as the ratio of the 1929 labor cost at the level of specific estimate performance to the labor cost used by Mr. Sloan in his appraisal of June 30, 1923. I then combined that labor ratio with the material ratio shown in the first line by means of the proportions of the material and labor shown below, arriving in the last line at a composite ratio of 79.74 per cent. Those two ratios shown in the last line are those used on page 2 of this exhibit. I made a minor adjustment
4097 in the proportions of material and labor used in the Wray computation, which is explained in the footnote.

On page 4, the figures in the two columns headed "Chain index (a)," are copied directly from Plaintiff's Exhibits A-2 to A-10, inclusive. The figures in the other two columns are merely the chain indices in (a) converted to indices on the June 30, 1923 base, by a simple computation which is familiar to every user of index numbers. The 1929 figures in column (b) of 85.26 for material and 128.41 for labor are those used in the first and second lines, respectively, on page 3 of my exhibit. The remaining tables of this exhibit cover underground cable substantially in the same way that pages 2, 3 and 4 cover aerial cable. They cover the same ground, and the data are taken from the same sources, and the methods used are the same with one minor exception.

4098 Page 5 is similar to page 2 and shows the derivation of the underground cable figures, which are used on page 1.

Page 6 shows the derivation of the ratios which are used on page 5, and is similar to page 3 except that it does not show the derivation of the labor ratio which is used on the second line of the column headed "Wray."

For reasons which I previously stated in connection with Defendants' Exhibits X-6, X-8 and X-9, it was necessary to treat the labor of the underground cable gang and the building cable gang separately and this separate treatment is shown in page 7, the last figure on that page being carried forward to page 6.

I start on page 7 with the cost of reproduction of the entire account amounting to $20,244,068 as shown in Plain-
4099 tiff's Exhibit No. 1, page 3. The first step I took was to find the labor portion of this total, and that is done on the third line by applying the "per cent of total cost labor," which is shown in the second line, and is copied from Plaintiff's Exhibit No. 1, page 54. This gives $5,222,970 as the total labor cost in this entire account at the June 30, 1923 level. In order to apply the separate treatment referred to, it is then necessary to separate this total labor cost between underground cable labor and building cable labor.

Page 58 of Plaintiff's Exhibit A-2 shows that of this labor 71.5 per cent was underground cable and 28.5 per cent building cable. Applying these percentages, we get $3,734,424 as the cost of the underground cable labor and $1,488,546 as the cost of the building cable labor, still at the level of the June 30, 1923 appraisal.

Turning for a moment to page 9, where I have set up the chain indices shown in Plaintiff's Exhibits A-2 to A-10, in-
clusive, and from them have computed the indices on a
4100 June 30, 1923 base for the underground cable gang and the building cable gang separately, we find that the 1929 index of the underground cable gang was 136.22 per cent, and of the building cable gang was 130.81 per cent. Applying these indices on page 7, we find that, according to Mr. Sloan's figures, the underground cable labor in his June 30, 1923 appraisal would have cost $5,087,032 at the 1929 wage levels, and the building cable labor would have cost $1,947,167.

For the reasons already stated, I have applied no further adjustment to the building cable labor. I have used this figure as it stood, but I have adjusted the underground cable labor for piecemeal construction and for improved labor performance in the same way that I adjusted aerial cable labor on page 3 of this exhibit.

In Defendants' Exhibit X-8, page 17, I found that the ratio of the number of hours required at the labor performance level of specific estimates was 81.06 per cent of that required at the level of the total construction under both specific
4101 and routine estimates. As a means of eliminating, or at least minimizing, the effect of such piecemeal construction as would not be encountered in reproducing the plant, I therefore, took 81.06 per cent of Mr. Sloan's factor of 1.3622, reducing it to 1.1042. This represents the ratio which specific estimate labor performance in 1923 priced out at 1929 wage levels, bears to the cost level used in Plaintiff's Exhibit No. 1. The next step was to adjust for the improved labor performance experienced during 1929, and since Defendants' Exhibit X-11, page 9, shows this factor to be 94.59 per cent, I took 94.59 per cent of 1.1042 and found 1.0445 as the labor ratio of 1929. Applying this ratio to Mr. Sloan's 1923 labor cost of $3,734,424 gave $3,900,606 as the 1929 cost of that labor at the level of specific estimate performance. Adding this to the figure of $1,947,167, computed above as the 1929 cost of the building cable labor, gave a total labor cost at the 1929 level of $5,847,773. Dividing this by Mr. Sloan's 1923 cost of $5,222,970, gives the ratio of 1.1196 shown in the last line, and this ratio is the one used in the column headed "Wray" on page 6.

4102 The material ratio of 97.86 used in both columns on page 6 is the 1929 material index shown on page 8, where that index is set up in the same form and is developed in the same way as the corresponding index for aerial cable material on page 4.

In this exhibit, I have not made any allowance for retirements which may have been made from the 1923 plant prior to December 31, 1929, because I doubt whether it would be possible to identify such retirements with any reasonable degree of accuracy. Some of them could probably be identified by a study of estimate records and a study of mortality records, but not all of them.

Such retirements would affect the summary on page 1 of this exhibit by reducing the dollars somewhat, but would not change the percentage for aerial cable. For underground cable it would not change the percentage unless the retirements were so predominantly from one of the sub-accounts

(underground or building cable) as to change sub-
4103 stantially the proportions of those two sub-accounts in the surviving plant. In that event, it would affect the computation on page 7 to some extent by changing the respective weights of the sub-accounts.

This exhibit shows that, assuming the correctness of Mr. Sloan's appraisal in Plaintiff's Exhibit No. 1, his percentages of increase in material and labor cost in Plaintiff's Exhibits A-2 to A-8, inclusive, and of the other data in respect to which I have testified, that I used them from these exhibits, his appraisal of such portion of the 1923 plant as survived to December 31, 1929, was for aerial cable about 35 per cent higher than would be indicated on the basis of the company's experience on its larger construction projects; for underground cable, about 9 per cent higher, and for the two accounts, something over 12 per cent higher.

A substantial part of the plant covered by the 1929 appraisal was the surviving part of the 1923 plant.

4104 In connection with my study of the 1929 construction records, I did not make any check of Plaintiff's Exhibit A-8 similar to the spot check that in Defendants' Exhibit X-6 I have made of Plaintiff's Exhibit No. 1. I did not because while it would have been a comparatively simple matter to check the percentages of the increase in material costs, that could not be done with any reasonable degree of accuracy in respect to labor costs. In order to develop the percentage of increase in labor costs, it would be necessary to determine, first, the labor cost level on December 31st; second, the labor cost level on January 1st; and third, the average labor cost level throughout the year, weighted on the basis of the gross additions throughout the year.

The average level can be measured as I measured it
4105 in Defendants' Exhibit X-6 for each of the years 1921 and 1922 and for the first six months of 1923. It cannot be measured accurately as of either December 31st or January 1st, because labor cost levels, unlike material costs, but like such expenditures as supply expense and plant supervision expense, cannot be determined as of an instant date, but only over a period of time.

That is due to the fact that labor cost levels, as I testified at the previous hearings, reflect at least four variables—

namely, wage levels, gang makeup, the differing proportion of material and labor involved in placing large and small units, and the consequent effect on the labor cost level of changes in the average size of the units, and efficiency, or output per man hour. Mr. Sloan's labor index purports to measure only the first of these, and would seem to take no account of the other three. Of these four variables, the wage level is the only one which can be determined as of any given date, while the effect of the other three can be measured only over a period of time long enough and covering a volume of work large enough to balance out any temporary or
4106 accidental variations, and give a stable, representative average.

I have already discussed in previous testimony the effect that changes in labor efficiencies have on labor costs. I have made no study of the other two variables in this case. The two variables that I am referring to are the gang makeup and the differing proportions of material and labor involved in placing large and small units, and the consequent effect on the labor cost level of changes in the average size of the
4107 units. I did not make a separate study as to those variables other than the study made which resulted in Defendants' Exhibit X-10.

I am drawing from the figures in Defendants' Exhibit X-10. They indicate that these two variables have affected the labor cost in Chicago, especially in the case of underground cable in 1931.

4108 The fundamental difference between my labor index used in Defendants' Exhibit X-6, and Mr. Sloan's labor indices used in Plaintiff's Exhibits 1 and A-2 to A-10, inclusive, is, that while his indices reflect only the changes in wage levels, mine reflect all four of the variables which I have described; because I developed them from the company's actual construction experience as shown by its estimate ledger sheets. It is only by limiting his index to the one variable which can be determined as of a given date and disregarding the effect of all the others that Mr. Sloan is enabled to set up the percentages of increase in labor costs which he used in Plaintiff's Exhibits A-2 to A-10, inclusive. Since the effect of the other three variables is substantial, and since that effect cannot be determined as of a given date, it is impossi-

ble for me to determine with any reasonable precision
4109 the percentage relationship between labor cost levels on December 31st of any year and the average levels during the year.

I did set up and use such a percentage relationship in Defendants' Exhibit X-6, by adopting for that purpose Mr. Sloan's estimate of the relationship between labor cost levels on June 30, 1923, and the average levels during the six months immediately preceding that date. I determined the average levels during the six months and during the years 1921 and 1922 as I have testified, from the company's construction records.

4113 Defendants' Exhibit X-12, page 4, shows two labor indices, one being a chain index and the other being an index on a fixed base, in that instance, June 30, 1923. I testified a few minutes ago that the chain index is taken directly from Plaintiff's Exhibits A-2 to A-10, inclusive, and that the index on the fixed base is merely the chain index converted to a fixed base index.

4114 In those exhibits, Plaintiff's Exhibits A-2 to A-10, inclusive, the figures in that chain index represent Mr. Sloan's percentages of increase in labor costs from year to year. I computed the index on a June 30, 1923, base, as follows:

On June 30, 1923, that being the base, of course the figure shown is 100 per cent. Since the level on December 31, 1923, was 101.61 per cent of that on June 30th as shown in column (a), the index for that date on a June 30th base was also 101.61 as shown in column (b). Since the level on December 31, 1924, was 104.21 per cent of the level at the end of 1923, the 1924 index on a June 30, 1923, base is 104.21 per cent of 101.61, or is 105.89 as shown in column (b). Similarly, since the level of December 31, 1925, was 99.19 per cent of the level at the end of 1924, the 1925 index is 99.19 per cent of 105.89, or is 105.03. Column (b) was computed throughout in that manner, from column (a), one step at a time. That is the method to which I referred earlier this morning as the method in common use.

4115 Then it follows, that if we accept the percentages of increase which Mr. Sloan has used in Plaintiff's Ex-

hibits A 2 to A 10, inclusive, and which I have tabulated in column (a) on page 4 of Defendants' Exhibit X-12 that his labor cost on December 31, 1931, was 133.17 per cent of his labor cost on June 30, 1923, or an increase of 33.17 per cent.

Referring to Defendants' Exhibit X 12A, "The Effect of Assumed Errors in Percentages of Increase in Labor Costs in Plaintiff's Exhibits A 2 to A 10, inclusive, account 242 - Exchange aerial cable," I have assumed various errors in the chain index as used by Mr. Sloan and have traced out the effect of these assumed errors. Suppose we take the cable in the upper right hand portion of Defendants' Exhibit X 12A, in which I have assumed that Mr. Sloan's disregard of three items, three out of the four variables which affect a labor index, has resulted in each of the ratios in column (a)
being 2 per cent too high. The 1931 index in column
4116 (b) which is comparable to the 1931 index on page 4 of
Defendants' Exhibit X 12, and is there 133.17, by assuming this 2 per cent error throughout the chain index, the 1931 index is reduced to 111.03, or, to state it in another way, so that the 2 per cent error in each year, by reason of the accumulation from year to year through the chain index, results in an error of 22 per cent of the base in 1931, the 22 per cent being the differences between 133 and 111.

That is, it would make his percentage of apparent increase as of 1931 over 1923 three times as great as it would have been without that accumulated error.

There is another peculiarity of the chain index which does not involve this cumulative effect. If we assume that Mr. Sloan's estimate of 101.61 as the ratio between the labor cost level of December 31, 1923, and that of June 30, 1923, is three points too high and should be 98.61, but that all of the
other ratios in column (a) are correct, then that three-
4117 point error would be carried forward into each of the
subsequent years, subsequent to 1923, and would gradually increase by reason of the upward trend of the index until in 1931 it would become four points, being the difference between the 133.17, shown on page 4 of Defendants' Exhibit X-12, and the 129.24 shown in the lower right-hand tabulation of Defendants' Exhibit X-12A.

Another way of putting it would be that, since Mr. Sloan's chain indices indicate a 33 per cent rise from 1923 to 1931, necessarily a 3 point error in 1923 would rise one-third, or become 4 points in 1931.

If the appraisal as of June 30, 1923, which is set forth in Plaintiff's Exhibit No. 1, which forms the starting point of both columns (a) and (b) of the labor indices we have been discussing, and which consequently is taken as 100 per cent in both columns, is itself in error, that error would be carried forward into each of the subsequent years and be multiplied by the rising trend of the index in the same way.

Index numbers in general are not subject to the er-
4118 rors, accumulative and otherwise, that we have just been discussing. A commodity price index, for example, is computed by comparing the weighted price level of each given year with a similar weighted price level of the base year. In that way the index of each given year stands on its own feet, and is not affected by an error in any other given year. It is only when the level of each year is built up from the level of the preceding year, as it is in Plaintiff's Exhibits A-2 to A-10, inclusive, that the resultant index is subject to the errors we have been discussing. That is, the cumulative effects of the error result from the manner in which the chain index was compiled.

Defendants' Exhibit X-13, entitled "Comparison between Costs used in Sloan Appraisals and Costs of Western Electric Company; Apparatus, Installation, Equipment Specifications" was prepared under my direction and supervision. I have compiled and computed from Plaintiff's Exhibit A-2 to
A-10, inclusive, index numbers purporting to represent
4119 the changes in the levels of apparatus prices and of central-office installation and equipment specification costs used by Mr. Sloan in those appraisals. I have also compiled and computed from the records of the Western Electric Company similar index numbers purporting to represent the experience of that company in respect to those same items, in dealings with the Bell System as a whole. The result of that comparison is shown in Exhibit X-13.

It consists of two pages on which I have tabulated the index numbers just referred to, page 1 showing the indices of ap-

paratus prices and page 2 the indices of central office installation and equipment specification costs. On the first
4120 page, columns (a), (b), (c) and (d) are the indices of apparatus prices which I have stated were compiled and computed from Plaintiff's Exhibits A-2 to A-10, inclusive.

Column (a) deals with Account 221, Central Office Telephone Equipment. In Plaintiff's Exhibits A-2 to A-10, inclusive, Mr. Sloan has separated this account into manual exchange, local tandem, toll switchboards, toll telephone terminals, toll telegraph equipment and dial, and has appraised each of these groups separately. To determine his percentages of increase in cost, he sets up a "typical plant" for each group. From the material figures in his typical plant as of the first and last of each year we developed a chain index for each of the groups I have mentioned. These chain indices were then weighted into a composite chain index on the basis of the material portions of the gross additions in each group.

To determine the material portions we took the "Gross Additions as per Books, exclusive of Capitalized Overheads," as shown on page 4 of each exhibit and applied to it the
4121 percentage that material was of the total in the typical plant. The composite chain index thus developed was then converted by the method I have previously described into the index on a December 31, 1923, base, which is shown in column (a) on page 1 of Defendants' Exhibit X-13.

Column (b) for station apparatus was worked up in the same manner except that, since Mr. Sloan appraised the account as a whole, no weighting between groups was necessary.

In column (c) for P. B. X. equipment, I worked that up in the same manner as column (a), multiple and non-multiple being worked up separately, and then combined into the composite shown there.

And column (d) was a composite of columns (a), (b) and (c), weighted on the basis of the material portions of the gross additions each year.

The index in column (e) was prepared as follows:

On January 15, 1932, Mr. Gregory furnished to us
4122 in New York, certain working papers underlying a statement which was designated as "Statement A," and

which has since been offered as Plaintiff's Exhibit A-83, and entitled "Approximate effect of price changes on apparatus and equipment sold to Bell companies, 1921 to 1930." Among these supporting papers, we found a table designed "Statement B." "Statement B" that I am referring to now is the statement that was reproduced as Defendants' Exhibit X-13A and entitled "Estimated Effect of Price Changes on Apparatus and Equipment sold to Bell Companies 1921-1930."

I think Defendants' Exhibit X-13A speaks for itself. In that is developed a chain index on a 1920 base. The index shown in column (e) on page 1 of Exhibit X-13 was
4123 worked up directly from "Statement B" as indicated by the column heading. "Statement B" has been made available to Mr. Sloan since he was furnished a copy of Defendants' Exhibit X-13. Comparing columns (d) and (e), the index of Mr. Sloan's prices runs higher in every year than that in the one furnished by Mr. Gregory, that is, X-13A.

On page 2 of Exhibit X-13, I show similar indices of installation costs and equipment specification costs. The indices headed "Western Electric average" were prepared as follows: On February 16, 1932, I went to the Hawthorne Works of the Western Electric Company of Chicago and asked for a binder of cost indices, which I understood are known as the Burgess index numbers, and which Mr. Goldstein had arranged to make available for our inspection.
4124 That was at the office of the Western Electric at Hawthorne. In that binder I found two tables, one entitled, "Price Trend on Installation Work Performed for Bell Telephone Companies," and the other, "Price Trend on Equipment Specification Performed for Bell Telephone Companies."

The first sheet that I found there is the sheet which is reproduced as Defendants' Exhibit X-13B. I copied that from the table I found in that binder. It is entitled, "Price Trend on Installation Work Performed for Bell Telephone Companies, 1923-1925 = 100." The second sheet I found there was copied by me, and is reproduced in Defendants' Exhibit X-13C, entitled, "Price Trend on Equipment Specifications Performed for Bell Telephone Companies, 1923-1925 = 100."

4125 These tables purported to show installation and equipment costs for manual, panel and step by step equipment from 1920 to 1930, inclusive, arranged in the form of indices on a 1923 to 1925 average basis. I copied those tables at that time, and by rearranging the manual and panel indices to a 1923 base, I obtained the indices shown on page 2 of Defendants' Exhibit X-13.

I spoke of central office equipment being separated by Mr. Sloan into several groups for appraisal purposes. The groups that I used in developing the indices which are headed "Sloan Appraisal" on this page were manual exchange and dial only, so that it was not necessary to weight different groups into a composite in this case as I did on page 1.

With that exception, I developed these indices of installation and equipment specification costs in the same way as the apparatus indices on page 1, taking the installation and equipment specification costs shown for the beginning 4126 and end of each year in Plaintiff's Exhibits A-2 to A-9, inclusive, developing the chain index from those costs, and then converting the chain index into an index on a 1923 base. I did this separately, of course, for each of the four Sloan indices shown on page 2 of Defendants' Exhibit X-13.

Installation and equipment specification costs are similar to labor costs in general, in that their level cannot be measured as of a given date, but only over a period.

Mr. Sloan's appraisals in Plaintiff's Exhibits A-2 to A-9, inclusive, are as of December 31st of each year.

The question as to the data used by him in developing his installation and equipment specification costs was raised on Mr. Sloan's cross-examination, and in response the company has furnished a photostatic copy of a contract. That 4127 photostatic copy of the contract is reproduced as Defendants' Exhibit X-13D entitled, "Western Electric Company's proposal for Western Electric manual central office equipment, proposal T. S. 799110, dated January 6, 1923."

The letter of transmittal accompanying this exhibit from the company stated that it is—I quote from the letter—"a sample of the records from which Mr. Sloan obtained the installation costs of central office equipment." This con-

tract describes in somewhat general terms the equipment to be furnished and the installation work to be done, and specifies the price for each. It does not specify a price for the equipment specifications, the cost of which was included in the equipment price. It is the general practice in the Bell System to cover the installation of new offices and any substantial additions to existing offices by such contracts, which of course are entered into at various times throughout the year. If these contracts are the source of Mr. Sloan's information as to the installation costs, then it seems evident

4128 that his costs are not instant figures as of December 31st of each year, but represent experience throughout the year, and in that respect they are comparable with the indices of Western Electric costs shown on page 2 of Defendants' Exhibit X 13, which represent averages throughout the year.

In respect to manual installation costs, the indices show an increasing divergence throughout the years. In 1923, of course, that being the base year, the indices are the same. From there on, they increase in each year. In 1924, the Sloan index is 1.6 per cent higher than the Western Electric index. In 1925, it is 9.2 per cent higher. It rises each year until in 1930 it becomes 38 per cent higher than the Western Electric index. That is, it is 38 per cent higher than that represented by the experience of the Western Electric in its dealings with the Bell System as a whole.

And in the case of dial installations, Mr. Sloan's index for 1930 is about 60 per cent higher than that of the Western experience in the Bell System as there shown.

4129 The dial central office equipment in Chicago is panel.

Under the general practice prevailing in the Bell System, the controlling factor in deciding whether panel or step-by-step equipment shall be used is the size of the exchange. In large multi-office exchanges, such as Chicago, New York, Buffalo or Seattle, to mention a few with which I have had some familiarity, panel is considered preferable; while in single office exchanges and small multi-office exchanges—Syracuse, for example, which had two offices at the time I knew it—step-by-step equipment is used. So that the Western Electric index of the dial installation costs shown here relates only to the larger cities.

4130 Looking now at the cost indices of equipment specifications, Mr. Sloan's index for manual offices is substantially higher than that of the Western every year except 1924, and in 1930 is about 55 per cent higher, as shown on page 2 of Defendants' Exhibit X 13. In the case of dial offices he is lower than the Western during the first three years and higher during the last four.

There was much more dial equipment in Chicago during the years 1927 to 1930, inclusive, than there was prior to 1927. That fact is shown in Plaintiff's Exhibits A 2 to A 9, inclusive.

Defendants' Exhibit X 14, entitled, "Price Indices, All Commodities, Copper and Lead," was compiled under my direction.

4131 Page 1 of Exhibit X 14 shows the yearly average levels of wholesale commodity prices from 1801 to 1931, inclusive, as compared with the average level during 1926, that is, using 1926 as a base. Since 1900 the United States Department of Labor has published in various forms, statistics of wholesale prices which have been widely used as authoritative summaries of price levels. These statistics have included indices which have been revised and refined from time to time, the last revision having been made as of the first of 1932. The revisions are by the United States Department of Labor.

The index series current during 1924 comprised 404 items and extended back to 1890, using 1913 as a base. I at that time extended that series back to 1840 by means of data which I found in Senate Report No. 1394. That was a report made on March 3, 1893, by the Finance Committee of which Senator Aldrich was then chairman. It consisted of four large volumes of data compiled under the direction of Professor Faulkner of—I recall—the University of Pennsylvania.

4132 In January, 1925, the United States Department of Labor published in its Bulletin No. 367 an index on a 1925 base, and covering the period from 1801 to 1840, which had been compiled by Professor A. H. Hansen of the University of Minnesota, and I used that to extend the series back to 1801, still on the 1913 base.

The Department of Labor afterwards made a similar computation from the same data and published the entire series on a 1913 base in the Monthly Labor Review of February, 1927.

In the October, 1927, issue of the Review, the Department issued a revision of its index, the revision consisting mainly of an increase in the number of commodities from 404 to 550 and a change of the base from 1913 to 1926. This issue carried the revised index back to January, 1923. In the July, 1928, issue of the Review the revised index was carried back to January, 1913, and in the November, 1928, issue it was carried back to the original date of 1890. With additions down to date, that index series was in effect till the end of 1931, and the 1890 1931 portion of the curve shown on page 1 of Defendants' Exhibit X 14 is plotted from that series,
4133 while the portion of the curve from 1890 back to 1801 is simply the earlier index to which I have referred, converted to a 1926 base.

That exhibit shows the tremendous but temporary effect which a great war has on price levels, and the transitory nature of the price levels during the ten or twelve years following a war.

During this period we have had three great wars, the War of 1812, the Civil War, and the World War.

It is a matter of common knowledge that, as shown by this chart, each of these wars caused a sharp though temporary rise in price levels. What is not so generally understood is their subsequent history in each case. As shown here, in each case there was a sharp recession, a temporary stabilization, and a second sharp recession. The temporary stabilization was more marked following the Civil War than it was after the War of 1812, and was still more marked after the World War; so much so that the impression became rather general that the 1926 level was a normal level.

4134 In each instance, however, the secondary recession eventually asserted itself to practically the same extent. Prediction has become an extra-hazardous occupation, and I would not venture upon it now, because each recession comprises factors which are not common to the others, and the net result of such factors is unpredictable. Up to the

present, however, those factors which are peculiar to the existing recession would appear to have pretty well balanced out without affecting the net result.

On page 2 I have plotted by months for the period 1923 to 1931, inclusive, the same all-commodities index as on page 1, and have also plotted the indices of the two commodity groups which are most closely related to telephone construction costs, those two groups being building materials and metals and metal products. The purpose in plotting them by months is, of course, to show the trend in greater detail. All of the data shown here are taken from the current publication of the United States Department of Labor as stated in
4135 the heading.

The level of the all-commodities index in December, 1931, as plotted on page 2 was 66.3. The 1931 average as plotted on page 1 was 71.1. The 1926 average, of course, was 100, since that average is the base of this index. In 1923 it was 100.6; in 1920, 154.4; in 1911, 64.9; in 1896, 46.5, which is the lowest point shown on page 1.

The trend thus far during 1932 has been downward. Effective in January, 1932, the Department of Labor revised its index by increasing the number of items from 550 to 784 and also changed the weighting, so that the present
4136 series is not quite comparable with the one used in Defendants' Exhibit X-14.

So far the Department has published monthly figures only as far back as January, 1931, so that we cannot as yet substitute the new series for the old one. We can, however, compare them during the latest month in which they overlap, which was December, 1931. In that month the new series was 3 per cent above the old, and if we adjust it by that percentage we have 65.3 in January, 64.4 in February, 64.1 in March and 63.6 in April. The general trend thus far in 1932 is, therefore, not very different from what it was during 1931, although March and April show some tendency to decrease in the rate of decline. The Fisher Index, which reaches us somewhat earlier than that of the Department of Labor, leads to similar conclusions.

Page 3 of Defendants' Exhibit X-14, unlike pages 1 and 2, deals with the metal prices themselves instead of with price

indices, because there we are considering the price changes in two individual items, copper and lead. The upper
4137 group of curves represents copper prices, and the lower group, lead.

The jagged curves represent the average prices of copper and lead during each month of the period from December, 1922, to February, 1932, as those prices are compiled and published by the United States Department of Labor. The copper prices are f. o. b. refinery, and the lead prices, f. o. b. New York. The other curves are plotted from Exhibit D81 for identification, and purport to show the prices used by the Western Electric Company in its cost studies. As shown by the legend, the dash-dot curves purport to represent the average cost each year as stated by the Western Electric in D-81, while the dash-circle curves purport to represent the metal prices which are used in computing their standard costs.

This chart does not indicate any definite relationship between the actual metal price levels and those used in the standard costs from year to year and from month to
4138 month. In the case of copper, the level used in the standard costs is unchanged from the end of 1924 to date and consequently does not reflect any of the substantial fluctuations which occurred during that period, and it is above the level of either the monthly or annual averages throughout the entire period except from October, 1928, to March, 1930. In the case of lead the trend is opposite to that of the actual prices, being below them during the earlier years and above them since 1926.

The defendant, City of Chicago, offered in evidence the following exhibits:

X-1, entitled, "Illustration that test applied in City's Exhibit No. 95 is not affected by choice of base year having different proportions of material and labor."

X-2, "Illinois Bell Telephone Company Chicago Exchange, measurement of error in percentages of increase in plant costs used in Plaintiff's Exhibit No. 1 on assumption
4139 that increases in material and labor costs are correct. Account 241—Exchange Pole lines."

X-3, entitled, "Productivity of Labor."

X-4, entitled, "Illinois Bell Telephone Company Chicago Exchange. Table to illustrate that reduction in labor cost from any cause is not fully reflected in Plaintiff's Exhibit No. 1. Account 241—Exchange Pole Lines, 1922-3."

X-5, entitled, "Illinois Bell Telephone Company Chicago Exchange. Comparison of gang make-ups as of June 30, 1923, used in Plaintiff's Exhibits Nos. 1 and A-2—Exchange outside plant."

X-6, entitled, "Valuation, Illinois Bell Telephone Company, Chicago Exchange. Comparison between company experience and Plaintiff's Exhibit No. 1."

X-7, entitled, "Illinois Bell Telephone Company, Chicago Exchange. Comparison between sizes of plant items placed on specific and routine estimates, 1921-2-3."

X-8, entitled, "Valuation, Illinois Bell Telephone Company, Chicago Exchange. Labor hour performance on specific and routine estimates."

4140 X-9, entitled, "Valuation, Illinois Bell Telephone Company, Chicago Exchange. Comparison between company experience on its larger construction projects and Plaintiff's Exhibit No. 1."

X-10, entitled, "Illinois Bell Telephone Company, Chicago Exchange. Material and labor ratios used in Plaintiff's Exhibits Nos. 1 and A-2 to A-10, inclusive."

X-11, entitled, "Valuation, Illinois Bell Telephone Company, Chicago Exchange. Labor hour performance on specific estimates, 1929."

X-12, entitled, "Valuation, Illinois Bell Telephone Company, Chicago Exchange. June 30, 1923, portion of December 21, 1929, appraisal priced on basis of wholesale construction and 1929 material and labor cost levels."

X-12A, entitled, "Effect of assumed errors in percentages of increase in labor costs in Plaintiff's Exhibits A-2 to A-10, inclusive. Account 242—Exchange Aerial Cable."

X-13, entitled, "Comparison between costs used in Sloan appraisals and costs of Western Electric Company. Apparatus, installation, equipment specifications."

4141 X-13A, entitled, "Estimated effect of price changes on apparatus and equipment sold to Bell Company, 1921-1930."

X-13B, entitled, "Price trend on installation work performed for Bell Telephone Companies, 1923-1925 = 100."

X-13C, entitled, "Price trend on equipment specifications performed for Bell Telephone Companies, 1923-1925 = 100."

X-13D, entitled, "Proposal for Western Electric Manual central office equipment. Proposal TS 799110."

X-14, entitled, "Price indices. All commodities, copper, lead."

(Right to object to said exhibits reserved until after cross-examination.)

4142 *Cross-Examination by Mr. Thompson.*

As far as labor is concerned, I used the term "company experience" in my Exhibits 6, 9 and 12, in a different sense entirely, in that in Exhibit 6 I have included all of the labor, both on specific and routine estimates, and in Exhibit 9 I have calculated the labor based upon performance upon specific estimates, and in Exhibit 12 I have used Sloan's typical gang for the purpose of the labor performance with the qualification that in X-12 I also included the adjustments.

The phrase "company experience" so far as it relates
4143 itself to labor in these Exhibits 6, 9 and 12 is used in an entirely different sense in each instance, but I have defined it in each instance.

There was an increase in telephone labor cost from 1911 to 1923. Broadly speaking there was an increase in the price of telephone materials during that time. I would hesitate to answer which increased more, relatively, telephone labor or telephone materials without making a detailed study, because so much depends on the weighting.

Taking Mr. Sloan's indices as a guide, in the case of pole lines his material index increased much more than his
4144 labor index. In the case of the other accounts, the difference was not so marked, as I recall it.

"Q. I wasn't asking you at all about what Mr. Sloan did. I was asking you, from your own experience, not confining your answer to any isolated account, but taking the problem as a broad, general one, whether it is not perfectly true that labor increased less proportionately during that period—and by that I mean telephone labor—than telephone materials?

A. I would say that I have never made that actual comparison.

Q. And you are, therefore, unable to say whether labor went up at a comparatively lower rate than material, or whether material went up at a lower rate than labor?

A. In the case of telephone labor, so much depends on the conditions in each case that I would have to make a study of the conditions prevailing at that time.

Q. I am not talking about the conditions prevailing at the time. You are unable, then, as I understand it, to answer the question?

A. I have such comparisons in other cases. I keep
4145 currently, for example, a building cost index, which I developed from the Department of Labor indices of building materials and building labor. Now, on a 1926 base—

Q. You will pardon me for interrupting you, Mr. Cummings, but you are giving me information that I am not requesting at all. I am confining my question to telephone construction labor and materials, and information along other lines I am not interested in.

Will you turn to your Exhibit X-8? In this exhibit you have made an effort to compare the labor hour performance of the Illinois Bell Telephone Company as between specific and routine estimates in three accounts?

A. Right.

4145 Q. Exchange pole lines, exchange aerial cable and exchange underground cable.

A. Right."

Since 1921, a specific estimate is where the labor and material as a whole in such accounts as may be handled under the one estimate exceeds $2,500.

4146 Prior to that time it had been $1,000.

Having obtained the labor hour performance on specific estimates, which are, in the main, typical of reproductive conditions, I then applied the performance on these specific estimates to all construction work in these three accounts, except building cable, which is 35 C.

The data which is contained in my various sheets of Exhibit 8 was then made the basis of the comparison appearing in Exhibit 9, so that if we discuss Exhibit 8, whatever is said about the sheets of Exhibit 8 will immediately relate itself to the comparison set forth in Exhibit 9.

4147 Sheets 1, 2 and 3 of Exhibit X 8, show that for this two and a half year period, that is, 1921, 1922, and the first six months of 1923, there were 3,056½ poles added to the Chicago plant, 365½ poles on specific estimates, and 2,691 poles on routine estimates, and the two combined give the total of 3,056½ poles.

When I determined the labor hour performance on these 365½ poles, or 12 per cent of the total poles set during that period, I then applied the labor hour performance to the entire 3,056½ poles.

"Q. I wish you would turn to your working papers, and tell me whether there is included in the number of poles shown on sheet 2 of Exhibit 8 any poles in Estimate 4148 22150 for the year 1923, and if so, how many?

A. Unfortunately I misunderstood your plan. I understood the cross-examination would not be until the following day, and I did not bring with me all of my working papers. They are on the way now.

Judge Wilkerson: Well, it is only seven or eight minutes. You haven't that here now?

Mr. Thompson: Have you got that here?

A. I should find that in my list of estimates in Defendants' Exhibit X-8.

Q. Is that a list of labor hours?

A. Labor dollars and labor hours.

Q. You don't find it there, do you? That is on sheet 5?

A. Sheets 4 and 5—22150?

Q. Yes. You don't find that at all in your number of labor hours, estimates, do you?

A. I don't see it on glancing hurriedly through this list.

Q. I will ask you if it is not a fact, Mr. Cummings, that

you included in Sheet 2 of Exhibit 8 in Estimate 22150 for the year 1923 664 poles which had been purchased by the Illinois Bell Telephone Company in this two and a half
4149 year period from the Commonwealth Edison Company in the number of poles on which you were going to base your labor hour performance, and you have no labor hours for them at all in your exhibit?

A. We took whatever the estimate ledger sheet showed.

Q. I understand.

A. I don't recall, of course, now.

Q. But the point is that you are taking the number of poles that are set out here on the one side, and then you are getting the labor hours on the other, and then you are relating those labor hours to the poles, in order to show that Mr. Sloan's estimate of performance is too high, and, of course, if you got poles in on one side, and you haven't got the labor hours in on the other, your calculation is clearly in error, isn't it? I want to know first about this, and I will give you some more that you can look up between now and tomorrow. I want to know whether there are eight poles on estimate 20218 for the year 1921, and one pole on estimate 23104 for the year 1923, which you have in your number of poles, and
4150 you have got no labor hours for them.

A. Of course, I shall have to look up all these.

Q. And, of course, the result would be that if that checks, you have computed labor hour performance on 3654 poles, and there were only 290 for which you have the labor hours, with the result that your labor hour performance is twenty-five per cent lower than the company's own experience on specific estimates?

A. Of course, I can't answer that question now.

Mr. Thompson: All right, you be prepared to answer it in the morning."

(June 3, 1932.)

"Mr. Goldstein: If your Honor please, I would just
4151 like to make an additional statement of record. We are handing to the plaintiff's counsel a complete statement showing that the number of sheets in the C. R. and M. R. reports were left with the clerk, include—or are 1,703; and that the total documents—total sheets now aggregate 9,670, our

estimate being 10,000, which Mr. Bracelen said was grossly exaggerated. And we also want to state in the record that on the present state of the offer, if perchance one of our experts should desire to check a figure on page 2, and a figure on page 7,679, to determine whether the rate of growth of any of the companies of the Bell System was as to what it is, we
4152 would have to get the consent of the general counsel of the American Telephone and Telegraph Company.

Judge Wilkerson: Proceed with the trial—did you have anything to say too, Mr. Bracelen?

Mr. Bracelen: I do not think so.

Judge Wilkerson: Did you have anything to say in that connection?

Mr. Bracelen: I do not think so, your Honor. I think that the record is entirely clear, that counsel has designated definitely within the last few days what it is he wants from these reports, and we have told him he could have what he wanted.

Mr. Goldstein: And we have stated in the record—we state in the record that what we have designated are those things that we can use, whereas the offer is that if we should desire anything else, at any time, we must get their consent for any figure that we desire. That applies to the depreciation, and it applies to everything else. I want the record to show that.

Mr. Bracelen: Of course, that is not the situation at all.

Mr. Goldstein: The offer is shown in D-118, and has not been changed since.

Judge Wilkerson: Of course, the record shows here
4153 —the motion, precisely, as made for the inspection of the documents.

Mr. Goldstein: Yes.

Judge Wilkerson: And the record shows the ruling of the court on that precise motion.

Mr. Goldstein: Yes.

Judge Wilkerson: Now that motion was ruled upon, as it was made. The record also shows the subsequent motion that has been made, and whether or not it is in harmony with the motion as it was made originally.

Mr. Bracelen: Of course, there has never been a time when counsel on the other side had to have our consent. It has been made perfectly clear that these documents are

available at any time, and they may present them to the court, and have a ruling. The only suggestion we have made was that if they would indicate to us what they wanted, we might agree, so that the court would not have to rule.

Judge Wilkerson: I do not understand that the situation that is presented here is in any way different from that which is presented a hundred times to courts on motions for
4154 the inspection of books and papers. A party on a certain showing, under the rule is entitled to the inspection of documents which are material, in support of his case. But he must in making such application he is not entitled to a general inspection of books or papers merely because the portions which are material, happen to be included among those books or papers.

When he makes his application for inspection, he must limit himself to those things which he claims are material, within the equity rule, and within the decisions of the courts.

Now I say, I cannot recall at this moment the precise motion which was made. I know that there was a motion made; Judge Evans and I considered very carefully the language, and we considered very carefully the rule, and we passed upon the motion as it was made. Now if we were in error in what we did, we were in error.

As to the motion which has been made after that, and the offer of counsel which has been made, the record shows it all. I have understood the position of the plaintiff here to be that it was perfectly willing that there should be an inspection of those portions of the documents which are
4155 material; but counsel for the plaintiff have insisted that the burden rested upon the defendants to indicate the portions which it was claimed were material, not by precise designation, but by general description; and that they had the right to the protection which the courts always give against the inspection of matters which are wholly irrevelant to the case.

As I understand it; that is the situation here.

Mr. Goldstein: No.

Judge Wilkerson: It would be most unfortunate in a case of this magnitude and importance, if it should go off on any such trivial technicality as a controversy between counsel with reference to the inspection of documents, because the attitude of the court has been to give the widest latitude in

the examination of everything which has anything to do with this lawsuit, but to protect both parties against the inspection of things which have no right to be inspected.

Mr. Goldstein: The understanding that we have of the offer and we are stating it now deliberately—

4156 is that we have a right to look at these documents that are material, but we have not a right to use a pencil, to put a figure down, to make a check, or to do anything with them, without the consent of counsel for the plaintiff.

Now that is our understanding. And we have proceeded on that basis to the last since D-118 was offered.

Mr. Braeden: Of course, that cannot be counsel's understanding, if your Honor please, in the face of what has been stated here.

4157 I say, if your Honor please, that counsel's understanding as he has stated it, is directly in the face of what the record plainly and definitely shows, and if that is his understanding, I am at a loss to conceive how it is possible that he ever got such an understanding. The record contradicts him.

Now as to the thousands of pages, for example: I do not know how many thousands of pages there are of letters of transmittal of the provisional estimates, of the twenty odd Associate Companies, transmitting the provisional estimates to the president of the American Telephone and Telegraph Company during the period of twelve years, for which they demand those. I do not know, however, that there are stacks of large volumes; I should suppose that there are 5,000 pages of those letters. Counsel has gone through them, and has indicated the excerpts that he wants from those volumes; and in less than two hours the day before yesterday, in the afternoon, I checked through those volumes and examined the excerpts which counsel had designated in writing were the only parts of those letters of transmittal that he wanted.

4158 Counsel has made an examination of all of those volumes, and had designated in writing to Mr. Jones what he wanted from them. It took me less than two hours to examine all that he had examined. I think it is correct to say that two typists in less than an ordinary day's work, can copy all of those excerpts. I would undertake to do this —although I do not think we are called upon to do it; we

will have typists copy those excerpts which counsel has designated, and deliver them, and they can check them if they wish to check them. I have no doubt we can have those in counsel's hands by some time tomorrow, and that will dispose of 5,000 of the 10,000 pages, as I estimate it.

Would you not say, Mr. Goldstein, that about 5,000 of the pages you are talking about, are pages of letters of transmittal, which you have examined?

Mr. Goldstein: Mr. Bracelen, I handed to you yesterday a statement which showed the letters of transmittal for each year, for each of the companies, and if you will look on that statement, you will see that there are about 50
4159 pages of letters of transmittal, for each year.

Judge Wilkerson: Let me see one of those.

Mr. Goldstein: Now, the fact as Mr. Bracelen has stated it, if your Honor please—

Judge Wilkerson: I am not sure I know just what it is you are wrangling about here.

Mr. Goldstein: The fact that Mr. Bracelen has stated it, I am sorry to say, is contrary to what actually transpired, and I would like to make the statement as I know it, because I was there and Mr. Bracelen was not there.

Mr. Bracelen: I think we will put Mr. Jones on the stand—Perhaps that is the best way to do.

Judge Wilkerson: Oh, well, I do not like to put a lawyer on the stand.

Mr. Bracelen: I do not like to put him on, either.

Mr. Haight: I do not think it is necessary at all to put Mr. Jones on the stand.

4160 Judge Wilkerson: We will stay here all summer, if necessary, to get this record made in a way so that there will be no technicalities creep into it, about the production of documents. Our attitude is that everything that is material, in this case should come in, but our attitude also is that counsel and the parties in this litigation are entitled to the protection which is accorded to the ordinary merchant, whose books have been brought into court in a case between A and B, not to have his books examined in a controversy between C and D, and E, F, G, H, I, J, and one hundred other people.

Mr. Goldstein: On Saturday, Sunday and Monday I personally appeared at the Illinois Bell Telephone office. I was

handed about 10,000 pages of documents, and I was told that I could look through all of them, but that if I took down a figure, or took down a fact from them, I would have to submit that to counsel for the plaintiff, and leave a record of it, or get their consent to take it off.

Under those circumstances I proceeded, and I made a duplicate of every document—or every item of entry, of every fact that I stated, and handed the same to Mr.
4161 Jones before we left—or rather my man did.

Now under those circumstances, we made the inspection, and we now take the position as we took then, that if we are expected to check depreciation expenses, and their figures from the other states, which involve mathematical calculations from those sheets—

Judge Wilkerson: Now, without regard to what you say you are entitled to—let us see just what the situation is here. You insist on doing something that you have not been heretofore permitted to do.

Now, here is a great mass of documents, concededly.

Mr. Goldstein: Yes.

Judge Wilkerson: I say, concededly; I assume it must be conceded—there are a number of those documents which do not have the remotest bearing on this case. Because if the entire documents have to do with this lawsuit, then they should all go into evidence.

Mr. Goldstein: That is just our position.

4162 Judge Wilkerson: Then we are in the position now of having to make an impossible record in a lawsuit. In other words, a party is to be denied redress, because although conducting its business in a manner which has been recognized as perfectly lawful, its magnitude is such that it will not be possible, within the compass of the walls of the court room, to get its case before the court. Now with that in view, we have said that you may have such portions of these documents as bear upon your case. I understood your first objection was, to looking at the documents, with anybody around. But I thought we crossed that bridge, and you are permitted to look at the documents.

Mr. Goldstein: Right.

Judge Wilkerson: (Continuing) In solitude.

Mr. Goldstein: That is right—upon our promise that we would not write anything.

Judge Wilkerson: Well, I do not know what your promise was, but you were allowed to inspect them without surveillance.

Mr. Goldstein: Right.

Judge Wilkerson: Now, having been accorded the right to look at everything, or handle everything, just suppose
4163 we had a ledger here, suppose we had a ledger of the company here in court, in a lawsuit between Mr. Haight and Mr. Adcock, and there were items on that ledger of accounts which related to that lawsuit. Suppose the court said that one of the parties might make inspection of this ledger. Well, then, the other one says, "yes, sir, but there is somebody standing around here watching us, we want to inspect it without surveillance."

Mr. Goldstein: Yes.

Judge Wilkerson: And we agree that it be done that way. But the other side says, "now that you are allowed to roam at large through this book, if you find anything in here outside of this account which you are going to use, we want to know what it is. We are entitled to know what you are taking out of our books; we are entitled to know, if for no other reason than that we may know that you have the information."

Mr. Goldstein: Right.

Judge Wilkerson: "So that if at any other time and place it should bob up in an improper way, we will know where it came from, or at least we will be on notice—we will have a pretty strong idea where it came from; so we want to know what information you are taking from these books."

Now, why is that not a fair request?

4164 Mr. Goldstein: Excepting for this, that they have used figures from there, and for us to check those figures, we would have to do one of two things; either we would have to ask them to give us all of the figures, so that we can make a check—in which case we say it will take a year—

Judge Wilkerson: Well, I never could see an objection myself to following the rule which as far as I know has been universally followed, that where books and papers of that kind are ordered for inspection, both parties are entitled to have a representative present at the inspection. Ap-

parently, your adversaries have yielded to the observance of a rule which is elementary and universal, and permitted you to do it alone.

Mr. Goldstein: Excepting on our promise, that we would not use a pencil without their consent; that was the reason, and—

Judge Wilkerson: Well, it is not just that way; it is that, having called for the books for a certain purpose,
4165 and on the statement that you desired to get information of a particular kind—if you took information of another kind, they were entitled to know that you know it.

Mr. Goldstein: No.

Judge Wilkerson: That was all.

Mr. Goldstein: No, your Honor. What they have done—

Judge Wilkerson: They are not so much interested in whether you took it down or not. All they want to know is what knowledge you, as counsel in this case, get out of these books.

Mr. Goldstein: No—

Judge Wilkerson: So that hereafter the fact may be established beyond the peradventure of question, "Here is a particular fact; did counsel in this case get that information in this proceeding?" And the answer will be yes or no; there will be no debate or equivocation about it hereafter.

Mr. Goldstein: To illustrate what that means: If we took those documents there—Mr. Bracelen says it will take
4166 a few minutes. We have asked for those documents, and they have offered those. If we should want to use these figures to test their depreciation, of these other companies which they have introduced here, we either must have them give us every figure on some of those documents, or it will take us a year to visualize those, to figure out the mathematics in our mind, without using a pencil.

So what they have done is this, through their method in which they have restricted the offer—our position is—they have made it a practical impossibility, at this late date, for us to make use of those documents.

Now, that is our position, and we stand on it.

Judge Wilkerson: Yes, and it looks to me like trying to get into this record something on which you can argue for a reversal, on that ground, even if you lose on the merits.

Mr. Bracelen: Of course.

Mr. Goldstein: They have offered the evidence, and they have refused us for a year—

Judge Wilkerson: As far as this court is concerned, and I know I speak for all three judges, we do not propose
4167 to have that kind of record made up here if we have to stay here all summer in this case, and sit down with the documents ourselves—if you impose that burden upon us.

Mr. Bracelen: Of course, that is the purpose.

Mr. Goldstein: For one solid year they have refused us these documents, at the last minute they use the figures. They use the figures and we contend—

Judge Wilkerson: They refused to comply with the request as you made it, and we denied your request, as you made it. I am not saying what the court would have done with your request if it had been different, but we were obliged, we thought, to deny the request in the form in which it was put to us for a ruling; and we could not order a general wholesale inspection of these documents upon the showing which was made. And speaking for myself, I am inclined to think that the ruling of the court is correct, even in the light of what has transpired in the trial."

(June 3 1932.)

4168 I included in my Exhibit X-8, under the number of poles to which I relate the labor hours, there are 66.5 poles set under estimate 22150 for the year 1923. There are no labor hours related to those in my account. I have also ascertained that included in my figures on specific estimate 20218 for the year 1921 and 23104 for the year 1923,
4169 there are 9 poles. There are no labor hours on those two estimates. It is not the fact that the net result of that is that I have included in the calculations which I have made to ascertain the hours of labor performance, 365.5 poles and have related labor hour performance for 290 poles.

"Q. All right. Now, as a matter of fact, you had 70 hours of labor in this calculation for which there were no poles at all, did you not?

A. That is right—I am not sure of the number, but I know that was so."

I would like to state just what happened. Since the hearing yesterday I have examined the working papers and have also had a check made of the original construction records of the office of the Illinois Bell Telephone Company and have also questioned the two men in our organization who worked with me in compiling the figures from the Illinois Bell Telephone Company records, and I find the following facts
4170 relating to your question as to the Commonwealth Edison poles included in three specific estimates, namely Nos. 20218, 22150 and 23104:

When we originally went to the Illinois Bell Telephone Company office in connection with this investigation, Mr. Lawbaugh, of the Plant Accounting Department of the Illinois Bell Telephone Company, advised both Mr. Bradish and Mr. Morris of our organization.

"Mr. Thompson: Well now, wait just a moment. I am perfectly willing for the witness to make any explanation, but he is apparently now repeating a conversation at which he was not present. Is that correct?

The Witness: That is correct. I have those two men here.

4172 Judge Wilkerson: Oh, I think I will let him state it. I have the idea that if they are here, and will back it up—go ahead. We will take a short cut."

4173 Mr. Lawbaugh advised Mr. Bradish and Mr. Morris of our organization that no Commonwealth Edison poles were included in these specific estimates. Upon that representation, we were on the lookout for Commonwealth Edison poles under routine estimates and not under specific estimates. We did include in the incidentals on routine, the dollars represented by Commonwealth Edison poles, and properly so, these being the figures which I read into the record yesterday morning on direct examination.

As to the specific estimates, we found on examination of the record of the Illinois Bell Telephone Company yesterday afternoon that in the case of estimate No. 22150, there is in the pouch a notation to the effect—and I might state that each estimate is filed in a large envelope, which is known as a pouch, and all of the papers relating to that estimate are presumed to be in that pouch—there is in the pouch a notation to the effect that the poles in question were set by the Commonwealth Edison Company. That is estimate 22150

for 66.5 poles.

4174 In respect to estimates Nos. 20218 and 23104, we made a careful search yesterday afternoon of these estimate pouches and neither we nor Mr. Lawbaugh were able to find any reference to the alleged fact that these were joint poles with the Commonwealth Edison. I therefore have no information other than Mr. Thompson's statement that these are Commonwealth Edison poles or joint poles.

In the figures on specific estimates, I did include these poles as part of the company's poles and they are therefore reflected in the figures. Mr. Lawbaugh stated to Mr. Morris, of our organization yesterday afternoon that this was the first instance that had come to his knowledge of the inclusion of such joint poles in lists of material placed on specific estimates. His understanding had always been that such poles were covered by routine estimates.

I have also since the hearing made a test. Taking Mr. Thompson's word to the effect that the poles in
4175 estimates 20218 and 23104 are Commonwealth Edison poles, I have made a computation of the portions of Defendants' Exhibits X-8 and X-9 which would be affected thereby and I find that on page 1 of Defendants' Exhibit X-8, the correction factor becomes 98.43 instead of 96.99 and on page 2 in the case of specific estimates, the correction factor becomes 98.4 instead of 85.9.

In Defendants' Exhibit X-9 on page 4, I have substituted the correction factor of 98.4 for the correction factor I formerly used of 85.9 and on carrying the computations through on that page, I find the per cent decrease in 1921 to be 24.65 instead of 34.22; in 1922, it becomes 16.50 instead of 27.14, and in 1923, it becomes 8.30 instead of 19.96. I have carried these corrected percentages forward to page 3 of Defendants' Exhibit X-9 and have made the corresponding adjustments in the proportions of material and labor.

In the year 1921, the corrected proportions of material and labor are: Per cent of total cost material 31.7 instead of 34.8, and for labor, 68.3 instead of 65.2.

4176 Using the corrected per cent increase for labor and these corrected proportions of material and labor, the composite per cent for material becomes 2.19 instead of 2.40; for labor, 16.84 instead of 22.31; and total 19.03 instead of 24.71.

In 1922, the material and labor proportions become, respectively, 26.9 instead of 29.7; and 73.1 instead of 70.3. The composite per cent material then becomes 1.41 instead of 1.58; the composites per cent of labor 12.06 instead of 19.08; and the total 10.65 instead of 17.52.

In 1923 the proportions of material and labor become, respectively, 28.9 per cent instead of 31.8; and 71.1 instead of 68.2. The composite per cent material then becomes .22 instead of .24, and the composite per cent labor becomes 5.90 instead of 13.61; and the total 5.68 instead of 13.37.

4177 I then carried these percentages forward to page 2 of Defendants' Exhibit X-9, substituting them there for the figures I used in my direct examination, and carrying the computations through in that table as before, I find in 1921 the gross additions at the level of June 30, 1923, as based on the company's experience, to be $70,490.86 instead of $65,545.97.

In 1922 I find the gross additions at the level of June 30, 1923, as based on the company's experience, to be $193,418.63 instead of $178,546.93.

For the period January to June, 1923, I find the gross additions, based upon the company's experience, at the June 30, 1923 level, to be $112,065.36 instead of $102,928.57.

In the total column the gross additions for the entire period at the level of June 30, 1923, as based upon the company's experience, became $375,974.85 instead of $347,021.47.

Carrying these figures forward to page 1 and substituting them for the figures previously used there, I find that the per cent of Sloan's appraisal method in this account in 1921 becomes 86.13 instead of 80.09; and for the three accounts the per cent of Sloan's appraisal method becomes 90.46 instead of 89.90, an increase of .56 of 1 per cent.

In 1922 the per cent of Sloan's appraisal method in the case of this account becomes 87.32 instead of 80.79, and for the three accounts it becomes 91.56 instead of 90.85—an increase of .61 of 1 per cent.

In 1923, the per cent of Sloan's appraisal method becomes in this account 92.51 instead of 84.96, and for the three accounts it becomes 95.24 instead of 94.55, an increase of .69 of 1 per cent.

4178 Referring back to page 2, under the figures as corrected, the company's experience for the year 1921

would show a decrease of 19.03 per cent at the cost level of June 30, 1923, as compared to Mr. Sloan's decrease of 5.99 per cent.

For the year 1922 the company's experience would be 10.65 per cent decrease at the cost level of June 30, 1923, as compared to an increase on Sloan's method of 2.09 per cent.

The company's experience January to June, 1923, would show a decrease of 5.68 per cent at the cost level of June 30, 1923, as compared to Mr. Sloan's 1.96 per cent increase, and for the full period of two and one-half years the company's experience, even under the corrected figures, would show a decrease of 10.98 per cent as compared to an increase of 39 100 of one per cent, as shown by Mr. Sloan.

4179 It is necessary to bear in mind that the difference due to the poles to which Mr. Thompson had called my attention has no effect whatsoever on Defendants' Exhibit X-6, or on any other of the exhibits, with the exception of Exhibits X-8 and X-9, and in the case of X-9, only to the negligible extent to which I have just referred. Laying aside any question as to where the responsibility rests for the failure to discover these hours associated with the poles, the fact remains so far as labor hour performance is concerned on the Exchange Pole Lines, I had in my old exhibit an error of substantially more than 20 per cent in respect to the number of poles, but not in respect to the number of labor hours. I have not computed the amount of error in relating the poles to the labor hours.

4180 On page 1 of my Exhibit X-9, I have given the figures about how little difference this error makes in the total result here.

Assuming that none of these poles should have been included, with which assumption I do not agree, I find, as the net result, that the per cent of the appraisal method in Exchange Pole Lines, that I should have used, was approximately 7 per cent higher on account of this error in 1921.

By these figures that I read in I am not changing my former result; they are simply put in for the purpose of evaluating what that would be if counsel's assumptions are correct. And it would also make a trifle less than 7 per

4181 cent difference in my per cent of appraisal method in Exchange Pole Lines for the six months' period, January to June, 1923.

"Q. Yes. Now, you did not limit in your testimony the effect of these per cent of appraisal methods, merely to this two and a half year period, did you?—In other words, what you were saying to the court was this: "I am going to show you now that Sloan's method inevitably leads to an incorrect result, and that he is in error by these percentages in those two and a half years, and that means that in all the other years he is in error, but I do not know by how much"—and that is what you have testified to?

A. I do not think that I did; that was not what I intended to testify to, Mr. Thompson."

Except for such conclusions as may be drawn from the trend, I limit the effect of Exhibits X-8 and X-9 to the two and a half year period. I testified that I did not know
4182 what the result would be in other years, because I had made no examination.

It makes a difference in the hours of labor performance whether you set a pole in dirt, or through pavement. To find out how much, I would have to look that up in our files; I do not carry in mind the details. Depending on the pavement it might easily amount to 15 or 20 per cent difference in labor performance. Without binding myself absolutely I think that it is within reason. I would like to check that a little bit. As I said, I do not have the details here. If you refer to
4183 the total labor of setting the pole rather than the digging labor, then I would imagine that 15 or 20 per cent might be a bit high for the total labor.

"Q. All right. Now you stated certain assumptions that you proceeded upon in these exhibits. You necessarily also proceeded on the assumption, for this two and a half year period that the physical conditions under which the poles were set—and I am referring now as to whether there had to be pavement cut or not—that were experienced by the company in its specific estimates, were fairly representative of the labor—of the physical conditions under which all of the poles were set, both routine and specific.

A. I made no allowance for any possible difference.

Q. No, and therefore you had to make that assumption, did you not?

A. I think it is implied.

Q. Well, now, did you make any investigation to find out what the fact was?

A. I did not."

Assuming that out of the 290 poles that went in under
4184 specific estimates, 4 of them went in through paving, or a less than one and one-half per cent, and assuming that out of the routine poles between 12 and 13 per cent of them went in through paving, I haven't the faintest idea of course offhand as to what effect that might have, or whether my exhibit is in error. It would have an effect. Whether it would be appreciable or not, I cannot say. I am saying in these exhibits that there is a difference between the labor performance on specific estimates, and on the routine.

4185 The purpose of this exhibit as far as it existed in my own mind, was to meet Mr. Sloan's testimony that there was no difference between the specific and routine estimates. When I am doing that, it is rather necessary that my work proceed upon assumptions that fairly represent the conditions under which these poles go in. The difference in my figures caused by the difference between setting poles in pavement or in dirt would be very much more than offset by the smallness of those jobs. In other words I am talking now about something that might compensate for it.

The first thing on page 3 of Exhibit X-8, you will find that
4186 the total actual hours of labor performance on routine estimates, is 80,193.5. The total computed hours is arrived at from routine estimates. I compute that it should have taken 78,000 hours on the basis of the units developed on page 1 for both specific and routine. Of course those units I have changed as the result of throwing out those poles. I have not recomputed page 3. It would change that somewhat. The trial units are increased a little. The conclusion that I have drawn from this is that the labor
4187 hour performance on routine estimates is higher than the labor hour performance on routine and specific combined.

I do not recall offhand what Class G labor is. I imagine that Class G laborers do two jobs that do not relate themselves to pole lines; that is they install drop wire and stations; and they do two jobs that relate themselves to pole lines; they put on guard arms and brackets. I have had

very much practical experience in the telephone busi-
4188 ness, and the above statement as to what Class G laborers do sounds right. I do not know how much of the time of these Class G laborers would be split between putting on the brackets and the guard arms; it is all in the pole line account. I made no assumptions on that. Purely as a blind guess, it is somewhere in the neighborhood of about half and half. I have these 20,000 labor hours in there, but I have no brackets in my material account at all because they did not show on the estimate ledger sheets. They are in there as miscellaneous materials of course, and are miscellaneous material, non-major material, allowed for in the la-
4189 bor hour units. I have not included brackets in my computation on page 3 of this exhibit for the same reason that I have not included cross-arm bolts, or any other miscellaneous material or minor material. In the entire two and a half years' period, we have 20,939 hours of Class G labor out of the total of 80,000 hours that I have here. That is a little more than one-fourth of the labor hours on page 3, are Class G labor. About half of that they do on brackets. The quantities for brackets are allowed for in the labor hour units. They are automatically weighted in there because that is the way those units were made up.

4190 They were weighted in by the New Jersey Division of the New York Telephone Company which made up these units which we used. So that I say they are automatically weighted in there. This exhibit does not show it, but I am familiar with the practice of the company—and I know that they are there.

Referring to sheets 13, 14 and 15 of Exhibit X-8, there is subsidiary cable in the plant of the Illinois Bell Telephone Company. I do not know what proportion subsidiary cable bears to the total cable account. It is in the neighbor-
4191 hood of 15 per cent I imagine. Included in the cable that appears in Exhibit X-8, there is subsidiary cable. I do not know how much because it was not at that time split on the company's records. It is on the present records. There is bound to be a subsidiary cable there. I know that, first because the company constantly installs subsidiary cable. During the 1921-1923 period the company lumped all sub-
sidiary cable under code 5-C and the records show no
4192 separation. We have such separation figures in our

1929 study. Notwithstanding the company's treatment, there is no doubt about the fact that a part of this was subsidiary cable. I got my trial units from Exhibit B-23 of the New York Telephone Company, in this New Jersey case. There is a difference between the trial labor units on the installation of main and subsidiary cable. It is a very big difference. The units on subsidiary cable are in the neighborhood of twice as high for labor hour performance gen-
erally speaking as on the equivalent cable installed in
4193 the main cable. I applied to all of this cable, includ-
ing the subsidiary portion of it, the trial labor units for the main cable developed in the New Jersey case. I had no option, from the fact that the records were not split up, and I could not sort it out. I made an allowance for it. The correction factor allows for that.

On page 15 for example, the correction factor for specific and routine combined is 118.50, showing that by using the main only, as I have stated, the subsidiary units are larger substantially larger, than by using the main only; and naturally I was using figures which I knew were smaller than represented the Chicago performance, I applied the 118.50 to the trial units, arriving at the units which I have used
in the tables in the last column on pages 13, 14 and 15.
4194 I know that the hours of performance that I applied to
the total account were less than the actual hours that would be involved, to the extent of this figure. I used the factor to correct the trial units and raise them to the level of the company's experience, including the subsidiary, and not to make a comparison against Sloan. The effect of it was not that when I got the corrected units, they were based upon the assumption that all of this cable had been installed in the main account, and none in the subsidiary account. This correction factor of 118.50 is the correction for that. That correction factor does not indicate that the performance on
the combined specific and routine estimates is either
4195 too high or too low. The purpose of pages 13, 14 and
15 is simply to arrive at labor hour units which reflect the company's actual performance as it was done.

"Q. Yes, but after you did that, then you determined that only 81 per cent of the labor on total combined specific and routines in this account should be taken as the labor hour performance for the entire account, didn't you?

A. I wouldn't state it in just that way. I don't think that, that is the effect of what I did. On page 17 I show that the performance on specific estimates involved 81.06 per cent as many hours to do a given job as on the specific and routine combined. That figure 81.06 necessarily has involved in it, as a part of it, the full effect of this correction factor of 118½ because I used as the trial units on pages 16 and 17, the original trial units, multiplied by that correction factor."

4196 Sheets 22 to 29, inclusive, of this exhibit, deal with specific and routine estimates on house, or building cable only, in account 245, exchange underground cable. As a result of the calculations appearing on this sheet, I found that the labor hour performance on specific estimates was 7 per cent higher than the labor hour performance on combined routine and specific estimates. Except this one account, in every instance, when I got the labor hour performance on specific estimates, I used it. Then I went back to the combined labor hour performance on specific and routine and I stated my reasons therefor. And in this particular case the hours of performance on the specific job are higher than the routine and specific combined.

4197 I have read all of Mr. Sloan's testimony in this case. Exhibit X-6 purports to be a comparison of Mr. Sloan's conversion of gross additions for a two and a half year period with what I call the company's experience. In connection with this exhibit, I have undertaken to obtain the actual prices for the gross additions for this two and a half year period, as of June 30, 1923. I am comparing actual material prices as of June 30, 1925, with Sloan's material prices. Possibly that is not quite clear. What Mr. Sloan and I have both done is to develop a ratio of the material cost

4198 level of each of these years to June 30, 1923. We both used the same unit prices for June 30, 1923. For the preceding years our method differs. I used the same prices that Sloan did for June 30, 1923, applied to the units which I found on the record on the estimate ledgers as they were placed out of these gross additions so that my material prices represent, so far as these estimates reflect conditions, the actual poles, and the kind of poles that went into that plant. Now, after I did that, then I used what may be called the productive hour labor rate and used that for the first

4199 six months of 1923. The hours of labor performance

were taken from both the specific and routine estimates of the company during this period.

There is a difference in price between a treated pole and an untreated pole. The treated pole is higher priced. The treatment costs money. I assumed that treated poles went into this property in the two and a half year period. We didn't check that. I don't know whether it is a fact that in 1921, 23 per cent of these poles were treated; in 1922, 85 per cent; and in the first six months of 1923, 80 per cent.

We didn't inquire into the fact whether the figures in 1921, 1922 and the first half of 1923, under the third column "Cost at the level of June 30, 1923," were figures for an eastern cedar untreated pole. It is whatever figure we got from
4200 Mr. Sloan. I think Mr. Sloan testified that some treated poles were set, but that he had not taken them into account. Neither did I.

(Counsel reads from Mr. Sloan's testimony as follows): "Of course, many of the poles purchased in any year might be butt-treated poles, or they might be western red poles, or they might be most any type, but we have based our trend which we have used in this report on eastern cedar poles."

4201 We took the dollars that we found in the estimate ledgers, of course, without inquiring—my recollection is that the estimate ledgers did not even show whether those were treated poles or not, we did not inquire into that. I wanted to be absolutely certain that we were on a comparable basis with Mr. Sloan, and, therefore, used the same prices that he did, getting them either from his exhibits, or from his working sheets.

"Q. I won't waste any further time on this, Mr. Cummings, but I will just ask you to do this: I will ask you to look over your work sheets, and to tell me tomorrow if it is not a fact that as a result of the method, which you followed, you have in this Exhibit X-6 the material costs of the exchange pole lines of the Illinois Bell Telephone Company during this two and a half year period, based upon the eastern cedar untreated poles, and that the result is that the dollars in this exhibit are greatly less than they should be on that account?

A. As of June 30, 1923?

Q. Yes.

A. Well, I can answer that question now as well as after examining the working sheets.

Q. All right. It is true, isn't it?

4202 A. Because the dollars that we used as of June 30, which we obtained from Mr. Sloan, are whatever his figures showed, if those were eastern cedar, or northern cedar, or what not.

Q. All right. You say, then, that your dollar figures and Sloan's dollar figures, as of June 30, 1923, are identical?

A. Yes."

We got our material for exchange underground cable in the same way, copied it from Mr. Sloan.

I don't recall making any allowance for wastage.

"Q. And Mr. Sloan does?

A. And yet the check that I made was this: After we had pulled off all of the quantities from these estimate ledger sheets, we compared our totals, as I think I testified, with the summary sheets which Mr. Sloan stated he had used, and also with Mr. Sloan's

4203 working papers. Naturally, we found some differences; I will guarantee that neither I nor anybody else could go through that tremendous mass of detail and arrive at exactly the same answer as before."

Some of the sheets are not wholly legible, and with that tremendous mass of detail, there would be found to be minor differences, but those differences were minor. In many instances we arrived at precisely the same number of feet of cable; and I am speaking now of our comparison between our totals on both the summary sheets, which Mr. Sloan used, and his working sheets. The differences in this account, exchange underground cable, as shown on Exhibit X-6, between my method and Mr. Sloan's method, are small differences.

4204 The percentages that I get on page 1 of Exhibit X-6 are composite of material and labor, and that sort of thing. The comparison of material prices is on page 12.

The common allowance for wastage in cable amounts to about 2 per cent of the total material. I have made that allowance myself and regard it as fairly accurate. It

4205 seems to me our figures do contain an item for wastage. It is not a question of checking it. It is a question of

fact as to what the estimate ledgers show. Now, assuming the 2 per cent figure to be correct, as I say, I have used a similar figure, that figure is reflected in the quantities which we found on the estimate ledger sheets, because those quantities necessarily include wastage. If you have a hundred foot section, you will not order exactly a hundred feet of cable, because you know you have got to have some leeway. You will order 102 feet or something of that kind, and those are the figures we have gotten. That wastage is in our figures. Our figures do not contain an allowance made by us for wast-
age; but the figures taken from the estimate ledger
4206 sheets do include such wastage as the company allowed
for. I assumed the records showed it. What I am trying to do now is to get this material on a reproductive basis. My answer is this: that our figures include such wastage as is entered on the company's books and they do not include anything but that.

In using my conversion factor, I took the cable as it was
set up on the records. Whether I used the prices for
4207 ANA 22 gauge cable, and ANB 19 gauge cable in my
factor depends on the prices that Mr. Sloan used. If his prices were for those classes of cable, then that is the figure I used. I factored on that basis, and then applied that to cable on the assumption that was all the cable there was in the plant of that 19 and 22 gauge type making the same assumption in that respect, I think, that Mr. Sloan did.

He applied the trend to the same types of cable that I have used here, because he applied it to the gross additions of these years.

Sloan based his trend on the types of cable referred
4208 to, ANA 22 gauge, and ANB 19 gauge, and then ap-
plied these trends to the cable that was placed each year in this period.

"Q. On the contrary, what you did was not only to get your trend on that cable, but to assume that those were the exclusive 22 and 19 gauge types that were in the plant, the results being that this was a newer type, and a less expensive one, and that, therefore, you got a less price for your cable than you would if you had applied your trend to the elements as they existed?

A. It would work out just the other way, as I see it. If, I, by taking the figures as they were actually set up on the

estimate ledger, was using the price of a cheaper cable than that used by Mr. Sloan and by me on June 30, then the reduction of—the decrease on June 30, 1923, as compared with the actual in each year, would have been less than the fact. If that is the case, I erred against myself.

Q. Let's see if you did. You get a trend that you use and, that Sloan uses as being fairly typical of the trend for all cable.

4209 A. We didn't both use the same trend. We both used the same instant prices.

Q. Exactly. You get a trend based on certain types of cable. Now, that is a less expensive type of cable than some of the cable in the plant. Now, if you apply that trend in your case to the less expensive type of cable only, why, of course, you are bound to get a less result than Sloan would get.

A. I understood you to say a minute ago that the present type of cable was a cheaper type than the types used by Mr. Sloan for his prices.

Q. Exactly.

A. And my answer was based on that. If that be true, then the decrease from the price of the cable that actually was used, if that was at a lower level than is ANB, or ANA to his ANA cable, on June 30th, the decrease would have been less than the fact.

Q. I hate to waste any more time on it, but I am just going to use a simple illustration.

A. That is a question of simple mathematics.

Q. If the ANA cable was 50 cents a foot, and the

4210 other types that I am talking about were a dollar a foot, and you got that price trend on the change in the 50 cents a foot cable, then if you applied that price trend to all of the cable in the plant at 50 cents a foot, you get a lower result that you would if you applied that trend to the cable actually added during this time which contained 50 cents a foot cable and the dollar a foot cable?

A. As I heard your question, you reversed your previous statement.

Q. Well, all right. That has happened. How do you answer it now?

A. As I understood you before, the ANA was a more expensive cable than the cable actually used.

Q. No, I say, or intended to say, all along, that ANA was the cheaper type of cable; that is the whole point to it.

A. And the cable which replaced it was a more expensive type.

Q. No, there wasn't any question of replacing it. It is a question of a trend being based on a less expensive type of cable, than Sloan applying that trend which he gets to all the cable in the plant, that you are going on the as-
4211 sumption that the cable in the plant is the cheaper type, on which you have based your trend?

A. You say that the ANA was cheaper than the B. S. A., for example.

Q. Well, I didn't say B. S. A.; but take that assumption.

A. Well, that is the present 22 gauge type.

Q. All right.

A. I don't know the fact in that respect.

Q. All right.

A. I understood you to state it the other way, and based all of my answers on that."

Exhibit 11 is where I get a correction factor for 1929 in labor hour performance on specific estimates of 63 per cent on aerial cable. On the next pages in this exhibit, I get a correction factor in exchange underground cable, as between the two periods of time, of 94.59, that is code 5-C, or the present equivalent of the old code 5-C. That is
4212 a difference of 30 per cent in the correction factors. In exchange aerial cable, the correction factor was arrived at in this way: there was only 9,242 hours of labor in that year in that account done on specific estimates. I don't know whether there were 189,000 hours of labor in the same year done on routine estimates in that account. We made no study of it. In the 1929 records we did not find any estimate ledger sheets for routine estimates; we found the data scattered through so many minor records that we did not have time to summarize them. It didn't immediately challenge my attention, that when I had examined 259,000 hours in another account, and the correction factor was just a little less than 95, and I had only examined 9,242 hours in another account, and got such a result as 63 per cent, that there might be
4213 something wrong with it. I don't see that that follows at all.

Assuming that the labor hours on the routine estimates

in this account are 189,000 for 1929; I know that the specific estimates are 9,242 hours. That makes a total of 198,000 hours. I have based a correction factor for the entire account on less than 5 per cent of the hours devoted by the Company on specific and written estimates to work in this account in 1929, and have disregarded whatever results there were in the other 95 per cent because I do not consider them representative of reproduction conditions. We did examine them with the result I have stated. We haven't our
4214 examination because, as I stated, while in the 1921 and 1923 period we found both specific and routine estimates summarized, and the expenditures brought together on the estimate ledger sheets, in 1929 we found that only in the case of specific estimates, while in the routine estimates the data was scattered over so many minor records that it was impracticable, within the time available, to bring them together, and we would have had a doubt as to whether we had it all, if we had undertaken it. For the reasons I have stated we did not believe it practicable to make a comparison to see how the level of labor hour performance on routine estimates between 1923 and 1929 in this account would work out. I did not do that. I did not take the total in 1923 and the total in 1929 and make any comparisons for the same reasons. In this exhibit I take the labor hours at the level of the specific estimates for 1921, 1922 and 1923. This
4215 exhibit deals only with labor hours. It has nothing to do with labor rate.

Exhibit X-6 contains the company's experience from both specific and routine estimates. The dollars for labor hours in Exhibit X-6 were taken from the company's records,
4216 subject only to one calculation.

As I testified, it is impossible to determine a labor cost level as of an instant date, and, therefore, in order to bring it to the June 30th level, I assumed that Mr. Sloan's ratio of June 30, 1923, to the six preceding months was correct, and used it for the purpose of the computation.

What I did, as I testified yesterday, I believe, was to take the actual labor hour rate that we got by dividing the direct labor charges by the direct labor hours, and adjusted that by Mr. Sloan's percentages to the June 30th level.

In Exhibit X-11, I have not included in sheets 2 to 5 any work done in 35-C "Building Cable" on specific estimates in

1929. These pages are comparable to those referring to code 5 C in the prior exhibit. This purports to show that there was an increase of labor efficiency as between 1923 and 1929, the difference between 94.59 per cent and 100 per cent.

4215 The figure "912" in the third line under the heading "Wray" on page 3 of Exhibit X 12, is taken from Exhibit X 8, page 7. So far as exchange aerial cable is concerned, my calculations in this exhibit depend upon the correctness of that figure. The figure on page 7 of Exhibit X 12, opposite "Ratio of specific estimate of labor performance to specific and routine combined," .8106 is taken from Exhibit X 8, page 17, and in so far as my calculations on exchange underground cable in this exhibit are con-

4218 cerned, they depend on the validity of that figure. In getting the figures that appear on this exhibit, I did not use the productive hourly labor rate that was in effect in the Illinois Bell Telephone Company in 1929. I used Mr. Sloan's index. The effect of that is to use his gang, because I wanted to measure here merely the effect of certain factors, leaving the rest as he had them. I don't know whether the company's labor experience in 1929 on a productive hourly labor rate was much higher than the labor costs used by Sloan. I don't know anything about it at all because I used his figures. I did not develop any figures of my own. In 1923 I used the hourly productive labor rate in my calculations.

4219 "Q. Now I want you to turn to your work papers relating to that and tell me whether in any one of these three accounts, exchange underground cable, exchange aerial cable and toll pole lines, the productive hourly labor rate in the first half of 1923, wasn't the lowest productive hourly labor rate that the company had experienced in that two and a half year period?"

I have the detailed figures for account 245, underground cable, and adding all of the hours and all dollars together, dividing one by the other, I find that the average hourly labor rate in 1921 was .972, in 1922, was .856, and in 1923 was .831. In 1923, it was the lowest. I have aerial cable here, 1921, under all estimates, shows an hourly labor cost derived in the same way of .964; 1922, .830; 1923, .773. A very marked decline there in the productive hourly labor rate from 1921 to 1923.

4220 There is the same trend in the case of pole lines, 1921 being 1.079 and 1922 .988 and January to June, 1923, being .908.

In getting the company's experience in all of these accounts so far as labor was concerned for this two and a half year period, I finally got it converted down on the basis of the productive hourly labor rate for the first half of 1923. I didn't work it exactly that way but it amounts to the same
4221 thing.

"Q. Now the net result of that is that you have got the labor element of these three outside plant accounts on the basis of a productive hourly labor rate which was the lowest, substantially the lowest, of the company in that two and a half year period.

A. What I actually did, of course, was to take the nearest period to the instant date of June 30, 1923, and adjust that to that instant date level by Mr. Sloan's percentage, then I compared that rate with the rates during the preceding years."

In effect, I used the dollars of labor in each of these accounts, divided by the number of hours that were worked. We try to get as near as we can to a productive hourly labor rate in making an appraisal ourselves. In making an appraisal we do not use a typical gang if we can avoid it. We have used a typical gang repeatedly, because in the case of a small company it is the only possible method, very often. By "a small company" I mean a company which has not maintained estimate ledger records from which the facts of its experience can be determined.

4222 I don't recall that I ever used a typical gang in a large Bell Company. I don't recall whether I used it in the Indiana State Wide Rate Case, a property involving forty-five million dollars. I don't think that I did the work there myself. I set up all the index figures which were merely a mathematical computation from the cost figures furnished by the Company.

"Q. And used some representative cross sections, weighted to plant in the Indiana State Wide Rate Case?

A. I used merely those which Mr. Halsted had set up.

Q. Yes, but you approved them?

A. I don't think I either approved or disapproved them.

I merely used them for what they were worth."

4223 In order to get a reproductive cost condition as to labor, I would try to get as near a representative rate as I could. If you want my opinion on it, my opinion would be that we would get better performance in reproduction than I have shown here, but I would have to go into the records further.

4224 I think it is true that toward the end of 1923, and the beginning of 1924, and 1925, the Illinois Bell Telephone Company was about to enter upon a larger construction program than it theretofore had. Naturally, expansion means the building up of your force, and you do it by hiring what is termed apprentice labor, or labor where the hourly rate of pay is lower than the older or more experienced labor. Of course, what the facts were in this case, I do not know. What I have done then is, to take that peculiar condition that existed in the experience of the Illinois Bell in the first six months of 1923, and have applied the productive hourly labor rate, without making any allowance for that condition, to all the labor for this two and a half year period because I think you do precisely the same thing in a reproduction project.

4225 I would start it with a large percentage of green men, and the hourly productive labor rate would be very low, but naturally, in a reproduction project, you would have to have a larger force than you would have in your current construction work, and you would build up the force in much the same way as has been stated. That is the theory upon which I say my use of this hourly productive labor rate is justified. When we come to convert this plant as it existed at June 30, 1928 to the 1929 level, I haven't the slightest idea how much of that plant as it existed in 1923 is in the company's plant in 1929. I do know that there have been large gross additions in the meantime. That plant is older than what has been added since. We often assume that the

4226 retirements are from the older plant. Mr. Sloan has covered that, I think, possibly better than I could. I will take his statement on that: It is not wholly true, as he stated. I have no way of telling as to how much of the '23 plant was in existence December 31, '29.

In reference to this hourly rate, I testified in the previous

hearings—and I have had a rather considerable experience with index numbers—that I did not know of any way in which a labor index could be developed that would do what
4227 Mr. Sloan has attempted to make it do in this case.

I have given a good deal of thought to it since then, and I still don't know; and I don't claim that the index which I developed here is a correct index, because I don't know how a correct index would be developed. I merely say it represents what the company's records show, that is the only claim I make for it. What I have really done is to build up an index, although I believed it could not be accurately done, for the purpose of comparing that inaccurate index with what I claim is Sloan's inaccuracy, on the theory that, being based on the company's records, it is somewhat closer than his and the company experience being as we have defined it, being whatever it may have been.

In Exhibit X-13, I attempt to make a comparison of the total apparatus appearing in the Sloan appraisal for the period '23 to '31 with statement B, of Mr. Gregory.
4228 I have included just the materials found in these three accounts. Central office equipment, 221, station apparatus, account 231, and P. B. X. account 234. That is on the Sloan side of it.

"Q. Now, do you know what was included in Mr. Gregory's statement?

A. I assume that he has used the term 'apparatus' in the ordinary sense of the term, and that is substantially the apparatus—the three accounts I have listed here in A, B and C, are often referred to as the three equipment accounts."

In other words I understand Mr. Gregory to have included in his prices from which I have built up these index figures, all telephone apparatus manufactured by the Western and not to include lead-covered cable and not to include supplies. I referred yesterday to that binder of Burgess index numbers which I examined at Hawthorne. In that I found that distinction drawn between apparatus, lead-covered cable
4229 and supplies, so I assumed this followed the same line.

As a matter of fact, I know, of course, that the Illinois Bell Telephone Company, prior to January 1, 1928, did not own any receivers, transmitters or induction coils. So that in my Sloan trend for 1923, 1924, 1925, 1926 and 1927, I as-

sume that there are no receivers, transmitters or induction coils; that is, I assume that his figures represented what we know to be the fact. In the Gregory statement, inasmuch as the Western manufactured receivers, transmitters and induction coils in large quantities in every year, I think
4230 very likely there would be, not only after 1928, but before that, millions and millions of dollars of these receivers, transmitters and induction coils. Of course, as I say, I don't know of my own knowledge just what he has included. I am drawing a comparison here.

"Q. And I am trying to find out whether your comparison that you have made contains comparable elements, or doesn't it?

A. I would imagine that transmitters, receivers and induction coils would be included in Mr. Gregory's figures. I don't know the fact.

Q. Yes. So that, on the one side, you have them in all the time in large quantities, and on the other side, you haven't them in at all for 1923 to 1927?

A. I know that they are not—or I am quite sure they are not in the other side.

Q. All right.

A. I think it quite likely they are on the one side."

There are loading coils and cable terminals in the plant of the Illinois Bell Telephone Company, in large quan-
4231 tities. They are not included in these three accounts under the Sloan appraisal. Not having seen his list of items, I cannot very well testify from my own knowledge whether they are in Gregory's account over here on the other side in large quantities.

"Q. Did you make any attempt to find out whether the two things you were attempting to compare were, in fact, comparable?

A. As to meticulous detail, I would not expect them to be.

Whether I would call it "meticulous detail" that on one side of this there are millions of dollars of an item that on the other side are not included in any of the five years depends on the proportion, of course, on the effect that this would have in the answer, and that, in turn, depends
4232 largely on the proportion. I took Mr. Gregory's state-

ment simply for what it might indicate as to a trend. In other words, I took Mr. Gregory's statement and compared it with Sloan without knowing as to detail of items what was in Gregory's statement. I don't say that the detail of items is immaterial, but I would not expect it to affect the comparison substantially. I could know whether it would affect it because the items that I have used here from Mr. Sloan's appraisal are the bulk of the apparatus items. I have heard of A. H. material, that is manufactured by the Western. A. H. is material that has been used and turned
4233 in and rehabilitated—remanufactured by them and re-sold. It has a lower price level than their new material.

I cannot testify as to whether all of that is in Gregory's trend; if I were to make such a trend, I probably would get it in. I would imagine that a good deal of that was in the Chicago plant. What allowance Mr. Sloan may have made for that I don't know. There is also a class C material that is reissued directly to the companies by the Western. There are substantial quantities of that class C material in the central office equipment account 221, station apparatus
4234 account 231 and P. B. X. account 234. My guess would be that there is none of that in the Western Electric trend.

Referring to the second page of Exhibit X-13 my entire knowledge of the factors which were used by Mr. Burgess in plotting his index numbers on installation costs and equipment specification costs is limited to the exhibits X-13 B and C, I believe, which I offered yesterday, and which are simply copies which I made of 13-B and C, which I made from that binder. It seems to me that the trends made by Burgess, which I copied, should represent the same thing as Mr. Sloan's method with respect to installation costs and equipment specification costs. An installation cost is an installation cost, whether it is in Mr. Burgess' index or in Mr. Sloan's.

4235 "Q. Well, that depends on whether Mr. Burgess was figuring one way or figuring another doesn't it? What I mean is, if his trend was built up on a certain basis that is different from the Sloan basis, why, then, of course this comparison meant nothing.

A. That depends on your definition of the word 'basis,' Mr. Thompson.

Q. All right, I will go a little further into that. What do you know, first, about whether these bases are comparable?

A. As I say, installation costs, to me, means installation costs, and I cannot see any difference."

It has been the practice of the Western Electric Company, beginning many years back, I can't state the date, to transfer from the field to the factory a substantial portion of its in-
stallation labor. In other words you are beginning to
4236 get a more complete assembly. Originally a large part
of the assembly of a switchboard was done on the job, on the ground. As the years have gone by—and this applies both to manual and to dial—more and more of that has been done in the factory.

Referring to Exhibit X-13, on the second page, under installation costs of manual equipment, beginning with the
Western average, between 1924 and 1925, there was an
4237 11 per cent drop. Then it goes down nearly 7 per cent
in the next year, and again it goes down nearly 7 per cent in the following year. As to the dial equipment, there is a similar drop all the way along the line there. The 1930 drop is not as marked as the ones preceding it. There is a 9 point drop from 1924 to 1925, a 7 point drop from 1925 to 1926, a 7 point drop from 1926 to 1927. Between 1924 to 1925 is the largest single drop.

"Q. Now, you know, don't you, Mr. Cummings, that in Mr. Burgess's trend he plots the installation cost just as it is, and that Sloan, on the contrary, has taken either a manual or a dial office, with the material as it was then, and then has arrived at his installation cost, so that the two are on a wholly incomparable basis?

A. There has not been any change, that I know of in the design of the material that would affect that substan-
tially.

4238 Q. No, no; but what I am talking about is this:—

A. (Continuing) A No. 1 board is a No. 1 board. A panel board is a panel board."

Referring to panel type equipment, that went in, in 1923, here in Chicago. What Mr. Sloan has done in his appraisal

is to take the material cost of that installation in that year, and then get the labor cost, and factor both materials and labor right down through this appraisal each year. So he has got the material cost as it was billed by the Western in 1923 and went on the books.

"Q. Exactly. Then his installation has been added from that time on. On the contrary, what Burgess shows in this price trend is, is it not, the decrease in installation costs, and as work was being transferred from the field to the factory, why, of course, that element alone makes a large difference in the installation costs in the field?

A. But you would not reproduce this property by that method.

4239 Q. But suppose Mr. Sloan, in his figuring, has figured the relation between material and labor on that basis, whereas, Burgess' trend is on a different basis?

A. Well, if Mr. Sloan has done that, then I would say he has done an unsound thing in his appraisal.

Q. I see. Your answer would be that the comparison is invalid, but Sloan is again wrong?

A. Well, the comparison is put in for what it may indicate as to the accuracy of Mr. Sloan's results.

Q. Well, does it indicate anything?

A. And if he has followed an unsound method, that is simply an explanation of why—

Q. I am talking about the exhibit now. I will deal with that method later. Does this comparison on the basis you have stated to me, from your own knowledge, mean anything?

A. I should think it did."

In Burgess' index, I presume that he included all 4240 types of manual central office equipment. Of course, I have no personal knowledge of what he did. I probably would include the new No. 11 board and repeater installation as well as the old No. 1 board, if I were making such an index. I have not gone back of this index. My whole knowledge of what Burgess did or did not include in his trends is confined to Defendants' Exhibits X-13-B and C. Practically all of the manual installations in Chicago are No. 1 boards. I have not checked up whether there has been a major installation in Chicago since 1923 of manual

type equipment, with one exception. I have been away from Chicago during a large part of that time. Sloan's installation costs are practically all with respect to No. 1 boards on the manual. That is what I am talking about now.
4241 That is an old board. Twenty years before the beginning of this period it had become standard. The major portion of any substantial increase in efficiency in installing, or in the equipment specification cost, with respect to that equipment, of course, could not have been realized in this period; it would have been realized in an earlier period. They had a new number 11 board that is largely manufactured by the Western during this period which was a new board practically at the beginning of this period.

As to whether you would expect increased efficiency in a new board, both in the installation in the field and in the equipment specification cost, there are factors that work both ways. What the net result would be, I don't know.
4242 There would be a greater increase in efficiency in the No. 11 board which would be offset more or less completely by a less degree of familiarity with it, that is to say, the No. 1 board had been standard so long that everybody is more or less familiar with it, they can go ahead blindly and put it in. The No. 11 board we are not all so familiar with. I would think that as they become familiar with it, the efficiency in installing it would increase, of course.

X-3 is confined wholly to the statistics put out by the United States Department of Labor, and their term is "Productivity of Labor." I think we have, all of us, in this case, used the term "Labor Productivity," "Efficiency," "Output per Man Hour" and "Labor Performance" more or less
4243 synonymously. Whether it is my statement that this exhibit shows labor efficiency, of course, depends on the definition of "efficiency." What it actually measures is the output per man hour and I have used the term "efficiency" in that sense. I took the first table in this exhibit (X-3) from the Monthly Labor Review for January, 1927. The author of this table, in saying that you cannot use this table to measure the efficiency of labor is using the term "efficiency" in a different sense from what I have used it.

Counsel reads from the Monthly Labor Review for January, 1927 as follows:

"It has been suggested in a previous article that the notion of 'productivity of labor' be distinguished carefully from 'efficiency of labor' by using the former as a broad term
4244 covering the whole relation of output to labor time, and restricting the meaning of 'efficiency of labor' to express the willingness and capability of the workers themselves.

According to this definition an increase in the efficiency of labor means that the employees, with the same machinery and processes, are working harder or more skillfully, so that the output per man is greater. The increased productivity of labor in an industry might be due to (1) the increased efficiency of labor, (2) the introduction of new machines or processes, or (3) better management."

"The mere construction of a productivity index contains no implication as to which of these it might be."

That is true. I do not testify in connection with this exhibit that these index figures here show anything with respect to efficiency of labor, nor, with that restricted definition of "efficiency" neither do any other figures to which I have referred anywhere in this case because what I have been
4245 talking about has been entirely labor productivity.

My guess is that the term "all industries" found in these figures in this exhibit does not include the telephone industry. I would have to refresh my memory by reference to the article to answer that; I don't know. If I find that it does I will so state in the record. My reason for that answer is that ordinarily we think of the telephone business as a utility rather than an industry. My guess would be that it does not include the result of the productivity of labor in the telephone business. I think that the author of this article also draws a clear distinction on productivity of labor as between old established businesses and new businesses.

What he says in that connection is that if you take an
4246 old established business, you do not expect to find increased productivity of labor, that you expect to find it in a new business, like the automobile business, and businesses of that type. It was partly to meet that, that I referred to Mr. Gherardi's testimony, of course. I think that is what the author said about this very table. As a matter of fact, I have taken 1919 as the base year for constructing this index. In this particular index 1919 equals 100. My

recollection is that the reason I did that was because that is the way it was set up in the article. I would have to look it up to make sure.

Counsel reads from Monthly Labor Review for January, 1927, as follows:

"Comparisons with 1914 and 1921 are affected by the industrial depressions which prevailed in those years, as in times of depression curtailment in production generally exceeds reduction in employment, and therefore output
4247 per person is small. Because of the postwar adjustments under way in 1919, the efficiency of industry in that year, likewise, was lowered, with a consequent reduction in output per person. For this and other reasons the increase noted since 1919 is abnormal."

I think we all agree that there have been factors that have made the increase in more recent years abnormal, I think that applies to the telephone business as well as others. I had figures for other years than 1919. I have them plotted in the same table for 1899, 1904, 1909. 1919 is the base in this table shown in this copy of the Monthly Labor Review and I simply copied that, without adjustment.

"Q. You did not notice that the use of it, even on their own statement, was to show an increase that as to that base year, was abnormal?"

4248 Possibly you attach more importance to the choice of a base year than I do. An index is merely a comparison, and the base that is selected is rather minor. It is the trend we are interested in. The third table in this exhibit all relates to the steel industry. Here are five branches of the steel industry. The first one, the productivity—relating all of these figures to 1925 as the base—is 116 in 1929. In the second branch of that same industry it is 149; in the third branch it is 128; in the fourth branch it is 95;
4249 and in the fifth branch it is 122.

Exhibit X-5 is a comparison of Sloan's typical gang, both before and after June 30, 1923. The gang, so far as exchange pole lines is concerned, is the same. In the aerial cable, the gang is the same, except the splicing gang, and the proportions between the two. So far as the placing gang is concerned, there is no change in it. I don't know whether there was any change in the number of cable terminals per 1000 feet that was operative about in 1923.

"Q. Oh, I don't mean exactly as of June 30th, but approximately?

A. As I stated, I was not in Chicago during the larger part of that time, around there, and I don't know just what change you have in mind.

Q. Assuming that such a change did take place, it
4250 would be perfectly apparent that you would require more splicing foremen and more splicers and helpers, if that change took place, than you did before?

A. My picture of it is that the use of aerial cable distribution with terminals at every pole, or frequent poles, came into general use very much before that, I would say starting about 1911.

Q. And would it also be your recollection that there has been no change in the company's practice along in 1922 and 1923?

A. They may have gone still further in that direction at that time, I don't know.

Q. Now, take your exchange pole wire gang, there was merely a reclassification of the company's records, wasn't there, Mr. Cummings, so that the people who had before been called linemen and groundmen and drivers were all called line installers, and you show here a wide variance in that gang. I will ask you if it is not a fact that all that means is there was a difference in classification, and that Sloan factored his gang forward by using his own man, and he could have just as well used eight or ten or twelve, if they were all in the same classification?

A. There is quite a distinction in my mind between
4251 a line foreman and a groundman or driver; and to say that each of those became the same man, namely, a line installer, subsequent to June 30, 1923,—again I cannot testify as to the facts, but it hardly sound—

Q. It doesn't sound reasonable to you?

A. (Continuing)—reasonable to me, no, sir."

As to account 245, "exchange underground cable." That placing gang remains the same, 467, we have cablemen there, where we had linemen, groundmen and drivers before. To some extent it was undoubtedly merely a reclassification of linemen, groundmen and drivers on the company's books, and terming them all cablemen although there is again, quite a

distinction in my mind between a lineman or a groundman or a driver. I know there was, when I was a lineman. I would have to study the records of the actual gang set-ups in order to answer whether that makes a difference in the gang set-up. I don't know whether there has been more cable
4252 splicing since 1923 required in the plant of the Illinois Bell than before that time. As I stated, the larger part of the increased use of terminals for distributing purposes came many years prior to that. There may or may not have been a further increase in their use involving an increased amount of splicing about that date. I don't know.

Counsel reads Mr. Cummings' testimony in this case from page 53 of volume 5 of the record of this case in the Supreme Court, as follows:

"In other cases, however, we have made similar studies, notably in the New York Telephone case, Nos. 7720 and 377. My working papers in the New York case cover a pile of 24 column sheets, I would say 6 or 8 inches high. I have made similar studies, developing index numbers and that sort of thing, in the Indiana Statewide case and in the case of the Home Telephone & Telegraph Company of Fort Wayne, Indiana.

I have developed similar indexes from the records of the Northwestern Bell Telephone Company, and other smaller ones.

Those are the large ones. In the Indiana case in the
4253 Federal Court we put in exhibits based on my studies of these index numbers, as I recall it."

That is my recollection of my testimony.

"Two of my principal criticisms of Mr. Sloan are these: First, that he has used a constant cross section of plant in the appraisal as of June 30, 1923, for his material index. Second, that he has used a typical gang, instead of getting, let us say, the productive hourly labor rate, with whatever adjustments ought to be made in it.

"Q. Now, what you say in effect is this: That you cannot convert gross additions in one year by a typical cross section of plant, because that won't represent the way in which the plant goes in, the distribution of the plant?

A. If it were really a representative cross section, I don't think I have urged any objection to converting gross additions

in one year by a typical cross section of plant. In the case of Plaintiff's Exhibit No. 1, it was a representative cross section of the plant in service at the end of the period.
4254 One could not take a representative cross section of the Chicago plant, and apply it to the plant at Aurora, Illinois. I think it would be absolutely bad. That was why I minimized any comparison of that sort in the prior hearing.

Q. Now, what you did in Indiana—and Mr. Halsted prepared these figures, and you checked every one of them, you built your appraisal up, and there were three periods involved in the Statewide case down there, one of them representing the average unit costs, 1916 to 1920, the other representing a ten year average unit cost, 1913 to 1922, and the third was a spot appraisal as of November 1, 1922, is that right?

A. Substantially as I recall it.

Q. Yes, now what you did in order to get your average unit cost for the 1916 to 1920 period, you followed this formula; you took in each account the prices in each month of the year for a given article, and averaged that and got a year's average. Then you took the five years which had
4255 been gotten together in that way, and averaged them, to get your material prices. Then you arrived at your labor performance as a percentage for each year, and averaged that per cent, and in that way you got your index numbers for 1916 to 1920, is that right?

A. As to the material, that was years ago, of course, and I am not certain even as to whether I did that or Mr. Halsted.

Q. If he did it, you approved it, didn't you?

A. At least I did not criticize it.

In respect to labor, my recollection is that he had developed labor as a percentage of material throughout, and I merely used the results of his computations. Obviously it would be necessary to get a conversion factor for the unit cost for 1916 to 1920 or 1913 to 1922, but not recalling even whether I did the job or not. I cannot very well say that I had to do that. In Exhibit A-212, handed me by counsel, none of the figures which are penciled in are in my handwriting, and the conversion factors are in Mr. Halsted's handwriting."
4256 (Plaintiff's Exhibit A-212 identified.)

(June 4, 1932.)

4258 Statement by Mr. Thompson:

"Yesterday I asked a question of Mr. Cummings, which contained an implication that Mr. Halsted, in the Indiana Bell Telephone case had used, and Mr. Cummings had approved the use of a typical labor unit. I checked the record last night and I find that that was incorrect; while a typical labor gang was used for the last two years of the appraisal only, because the information on the other method was not available."

4259 Mr. Bradish and Mr. Morris were the two men who acted for J. G. Wray & Company in taking off the specific estimate of the Illinois Bell Telephone Company, the poles in the exchange pole line account, and the hours of performance associated with those poles. They are both capable and experienced men. They have both been in our organization for several years and accustomed to doing that class of work, particularly Mr. Bradish. Mr. Bradish personally did part of it, and Mr. Morris did part of it; they were together. They are both in the courtroom this morning. When they went over there, I think they understood perfectly what the object of their search was. When we send men over to do that sort of work, they have got to have full and definite

4260 instructions, and I was there myself, quite a bit. They understood that they were to get the poles that had been set by the Illinois Bell under specific estimates for the 2½ year period, and the labor hours associated with those poles. They knew at least that we intended to do as we had done before, and Mr. Bradish had assisted on it before, comparing performance on specific and routine estimates.

Just what form that would take, of course, would depend upon what they found. They helped me in the preparation of Exhibit X-8. We not only had the benefit of their experience in taking those quantities and labor hours off, but they saw the exhibit after it was completed, and before it

4261 had been introduced in evidence here. They participated in its preparation. It was absolutely essential, in order for them to do their work, that they should see some papers in connection with every specific estimate.

"Q. I have brought into this courtroom this morning, Mr. Cummings, what purports to be the pouch that you referred

to, containing the complete files of specific estimate 22150. I am going to go through this with you first, and then we will have the opportunity of asking—you will have the opportunity of asking your associates what they saw and what they didn't see.

Now, here is the first envelope, containing these papers, and they say on their face that this is a purchase of one-half interest in 133 poles, clearly.

A. I so testified yesterday."

The second folder here shows on its face that it is an authorization for purchasing one-half interest in 133 poles 4262 to be set by the Commonwealth Edison Company. Had these men seen either of these two envelopes, there should have been no question about it. The next folder consists of four or five papers. There is a final completion report, which also shows the purchase of a one-half interest in poles. The remaining papers in this envelope show the purchase of a one-half interest in 133 poles.

There are no quantities in the next paper so that would not be significant. The last paper in this file is identified as 4263 Exhibit A-213. It lists the number of poles of each size placed, and this (indicating) is what Mr. Morris in particular pulled off, and it is what I testified yesterday, it was our understanding, derived partly from our own experience—I did not state that yesterday—partly from information from the company. It did not appear on any specific estimate where it related to joint Commonwealth Edison poles.

"Q. Will you hand Exhibit A-213 to Mr. Morris and ask him if that is the paper that he saw, and whether it is the only paper he saw?

A. He tells me that is the paper he saw, but not the only one.

Q. All right. That is entirely sufficient for my purpose. Now, is there anything that indicates to you, as an experienced telephone man, on the face of that paper, that there was joint construction involved?

A. It does not so state in any place.

Q. I will ask you whether there is that indicated to an experienced telephone man, that there was joint construction involved?

A. Looking at the list of the items, there is not. The only

thing that might indicate that, would be the entry under sundry disbursements.

4264 Q. Well, there are other things there, aren't there? Do you notice that 7½ poles there?

A. That is right.

Q. Do you also notice one-half of an anchor?

A. Right.

Q. Now, that was a red flag to any man with any experience who examined that estimate, wasn't it?

A. It was in no way conclusive, as I see it.

Q. All right. Now, Mr. Cummings—

A. Because—may I finish that?

Q. Certainly.

A. Because the poles might have been set by the telephone company and billed to the Commonwealth Edison Company instead of the reverse.

Q. All right. Exactly. However, you also knew, and carried forward on page 2 of your Exhibit X-8 this one-half of an anchor and one-half of a pole?

A. I did.

Q. The least that can be said about this feature of Exhibit 213 was that that was a warning?

A. I would say that it indicated, and I think I testified—I am not sure—that the half indicated that there was joint construction there.

Q. All right.

4265 A. But it does not indicate, of course, who did it."

Assuming that there was no one-half of a pole and one-half of an anchor there, a mere casual examination of Exhibit A-213 reveals on the other side, under the appropriation, an entry of $299.25 for labor. There are not any details, any labor hours on that. I have seen a great many labor sheets where there were not, so that proves nothing.

"Q. I will ask you if it is not a fact that any man taking off this ledger sheet was bound to know that he had used 66½ poles in the count against which you were going to apply labor hours, and there was not one labor hour shown in your estimate?

A. There are no labor hours shown on that sheet.

Q. I will ask you, in view of that fact, whether you desire to say that the error which was made was the fault of someone else?

A. Certainly it is not ordinary, of course, to examine every detail, if the thing that they are after appears clear, as
4266 the list of poles—the list of material placed here on this sheet was, and I assume that it was interpreted by Mr. Morris in the light of what he had been informed to be the facts."

I am guessing that if I had seen that sheet having perhaps wider experience in this line, purely as a guess in the light of what I know now—hindsight is always better than foresight —I think I probably would have noticed something peculiar about that sheet.

We were associating labor hours with poles in order to find performance. In this instance we were putting in poles in a substantial quantity, without the associated labor hours,
4267 and that was not the right thing to do. I did not know this situation when I testified yesterday, only so far as I testified to it. I had taken the word of our men for it. I had not personally gone to the telephone building and checked. I have no desire to dodge responsibility for anything that we are responsible for, but what I stated yesterday was
4268 none the less, so far as I know, the absolute truth. I had experienced men over there.

Exhibit A-214 is a duplicate of Exhibit 50 in the first hearing. I saw the work sheets that went back of 50, and back of Exhibit 1, particularly back of 50. I made some inves-
4269 tigation of the work sheets back of 1. The pole prices in both of these exhibits were identical, to the best of my recollection, and I say that because I think I would recall if they were not. I do not recall it, so I assume they were. In my judgment, they were identical.

Counsel reads from transcript of Mr. Sloan's testimony on cross-examination, as follows:

"Question: Look at the first line of Plaintiff's Exhibit 1, page 114, percentage increase—per cent increase material.

Answer: Yes.

Question: Now, what does that represent?

Answer: That, I take it, refers to pole lines that you are talking of there.

Question: Yes.

4270 Answer: That means for August, to find what a pole that was bought in 1911 would have cost in 1923, June

30th, you would have had to multiply it by 151.86 per cent (later corrected to read 251.86 per cent).

Question: And what did the 151.86 per cent represent?

Answer: That means the increase in the price of a pole between those two dates.

Question: Now, in developing your material percentage, you did that by taking items and quantities that you considered representative of the total plant in service in each account on June 30, 1923, did you not?

Answer: In developing that percentage, we took a cross section of the pole account, divided into the various sizes of poles in accordance with the actual number of each kind that existed, and we priced that same cross section out each year, clear back to 1911, with the price of Eastern White Cedar untreated poles."

4271 It is perfectly definite what Mr. Sloan did. I understand that. To the best of my recollection it is perfectly definite that that is what he did, both in Exhibit 50 and in Exhibit 1.

Document marked Exhibit A-215 looks like a work sheet that I delivered to Mr. Sloan and Mr. Cook, and in our typing, and is just as we delivered it, except that certain check marks in blue pencil and certain figures in blue pencil have been made in the exhibit.

4272 From the testimony that was read, of what Mr. Sloan did, he got the quantities that went in in this 2½ year period, found the prices at which the company had bought these items in each period, and then factored them forward by a conversion factor based on the method that he described in his testimony, which was just read. What I did as shown actually on this exhibit, I got 326 poles for that year, of 35-B size. Some of them may have been treated and some of them were untreated. We got the actual dollars paid for those poles from the construction records for the year

4273 1921. That was $6,189.70.

4275 I did not say that our Mr. Sloan's method and my method were alike, because they were not. I took the dollars on the books of the company and he took his trend.

"Q. Your methods were not even the same. The result of what you have done is this, that in this pole account, when you are making out the comparison between Sloan's principle and the company's experience, you have converted then the

treated poles that went to the plant, added to the plant in 1921, '22 and '23, down to the level of the untreated poles?

A. It is my impression that some of the prices that we found on Mr. Sloan's work papers did include treatments. I have assumed thus far that the prices we have used here were prices of untreated Eastern Cedar or Northern Cedar poles, as you have stated.

Q. Yes.

A. I could not, of course, testify to that of my own knowledge, without checking back."

On the record as it now stands, assuming that the premises stated are correct, I have converted those higher priced, more expensive poles by this method down to the level of Eastern Cedar poles, untreated, so to that extent my calculations
4276 appearing in this exhibit are incorrect. That error enters into X-6. It enters into X-9 too. And the corrected figures which I gave here yesterday, make no attempt to evaluate that error which I have made, assuming it to be an error. As to whether it is an error, as an engineer, I prefer not to do any guessing. I would rather check it up.

The first page of Exhibit X-14 is a price index from 1801 to 1931.

The price index includes grain and other farm prod-
4277 ucts, and dairy products. It includes metals, and metal products, but I do not think it includes relays, or line lamps, and it would include copper and lead, too.

As to whether it includes telephone apparatus as such, I would have to check over the list of 550 items, of course, and verify that. I think it is probably the fact that it does not. I think we may assume that telephone apparatus as such is not included in this curve.

As to whether the labor portion of the material cost of the commodities shown on this curve is much lower than the labor cost, generally speaking, of telephone apparatus, for the reason that telephone apparatus requires not only highly skilled labor, but a large proportion of labor to materi-
4278 als, I would not venture an opinion. I have made no study of that. From my past knowledge of the Hawthorne plant, for example, there is a great deal of very cheap labor there, and many of the items that enter into this curve involved high priced labor. What the net result of the whole thing would be, I have not the faintest idea.

In Exhibit X-10, "Exchange Pole Lines," account 241, opposite the years 1918 to 1923, under the column "Per cent of labor of material" beginning with 1917, the per cent of labor of material was 84½. Then it jumped to 180. The next year 146, the next year 171, the next year 218, the next year 275, and the next six months 249; then it dropped to 99.

4279 I thought it probable when I prepared this exhibit that Mr. Sloan had included in his labor costs, in his appraisal prior to June 30, 1923, the Commonwealth Edison poles, including both labor and material. I actually discovered the fact the morning that I testified. That is, I verified what I thought probable. Those figures there were significant to me. It was that very fact that led me to make that investigation.

I testified that Mr. Sloan's indices showed that in the exchange pole lines account, the increase during this period in labor costs was less than the increase in material

4280 costs. As to what I say about that, I have made no personal study of it in this case. I have in other cases in previous years. I have not this data with me. I hesitate to hazard an opinion without making a study of the facts.

As to what effect his inclusion of these Commonwealth Edison poles in the labor account had upon his appraisal, I merely pointed out what seemed to me to be an obvious error, without check. I did not take into account whether that error was against the company or in its favor. I was interested merely in bringing out the facts.

Exhibit X-1 is merely an extension or illustration,

4281 or amplification of old City Exhibit 95. Exhibit X-4 develops a new idea which was not in my mind before. X-2 is along somewhat similar lines to City's Exhibit 95. They are a different angle, and taking different factors. X-1 depends for its principles upon the same general principle which was set forth in Original Exhibit 95. X-2 is simply doing for another of the three factors that enter into the answer, a similar thing to what I did in City's Exhibit 95.

The method is entirely different, of course.

4282 The figure $1,497.21 in the column at the right of the page in Exhibit X-2 which reads "January 1st to June 30, 1923" is the cost of the material in the exchange pole line account in the typical plant as shown in Sloan's exhibit. Then I ascertain from the figures appearing in the same column,

but higher up, that the material per cent of the total cost was 28.6, and the labor expense, 71.4 per cent of the total. That means that the labor cost 249.65 per cent of the material. By multiplying the dollar figure for material, we arrive at the labor figure $3,737.78. My recollection is that it did not
4283 include any Commonwealth Edison poles. My recollection is that Mr. Sloan's typical plant did not include any Commonwealth Edison poles. Line 2 of this exhibit, under Section (A) reads "per cent increase of labor" during this period and is taken from Plaintiff's Exhibit No. 1.

I did not factor back, by means of that percentage, the labor cost which I arrived at for the first six months of 1923 throughout all the years. It was not precisely that because the percentage of increase in each instance is the increase of the June 30, 1923, level over the previous period. Con-
4284 sequently, I had to adjust the six months level to the June 30th level. I have factored these dollars of labor back on Sloan's per cent increase of labor. In 1915, I got by this factoring process $2,539.33 for labor, whereas Sloan got $863 in his typical gang, which is an entirely different thing. In other words, I got substantially three times as much labor cost as Sloan did by the method that he actually used in determining labor costs for that year. I got a larger proportion of labor in the earlier years than he did. I got a larger dollar cost, too, necessarily.

4285 "Q. I am talking now about the relation, 28.6 to 71.4, the material per cent of total labor cost—or the per cent, material per cent of total cost, and the labor per cent, and I will ask you if that does not include a substantial quantity of Commonwealth Edison poles for 1923?

A. Answering your prior question—

Q. I will withdraw that question; I think I was mistaken about that, and I am asking you this question, now,—I am asking you this question, in view of the fact that that factor determines the dollar amount of your labor, that you start with in this calculation.

4286 A. I accepted for this purpose Mr. Sloan's proportions of material and labor, with whatever they include.

Q. Exactly. Now, I will ask you if what you have done is—and I am not asking you for the purpose of arguing the question, but the result of what you have done is that you have factored back into each of these years whatever the relation

of labor was, whatever there was in the labor cost in the six months period ending June 30th, 1923 that was of an unusual condition, such as Commonwealth Edison poles, or anything else.

A. Commonwealth Edison poles did not enter into that 1923 labor level.

Q. No, I understand, Mr. Cummings, but we cannot get away from it that way, because the factor that you used to determine the amount, the dollar amount of labor there, was a factor developed from Sloan's work, where there was a large amount of Commonwealth Edison poles; and I am asking you if that is not a fact.

A. Well, but I think I testified that I accepted his figures—

Q. I am asking you—

A. I testified to what I had assumed for the purpose of this computation.

Q. Yes.

A. And that was one of the things I assumed.

Q. But what I am trying to get at is that having accepted his figures, and having used them in a way he did not use them in, but that you used them in, your result—I am asking you if you do not fall into a situation where
4287 you have reflected back through every one of those years this Commonwealth Edison pole situation in the labor account? You have got a perfectly absurd result, have you not?

A. No, I do not think so.

Q. All right. That is all on that. Now, it is on that principle, and that same principle, that Exhibit Number 95 was built in the old case?

A. To the extent that I have used his proportions of labor and material.

Q. Yes.

A. (Continuing.) And if they were in error, and it did not reflect the fact, why, naturally, that computation is equally—

Q. No, not the question of whether they are in error or not, but the question of how you used the figure that Mr. Sloan used, in a different way, is an entirely different proposition, is it not, Mr. Cummings?

A. Mr. Sloan used it in the same way.

Q. No, he did not factor back that way, and you know he did not do that.

A. He did not factor the labor cost of a typical plant, back in that way, no.

Q. No.

A. But he did combine his material and labor indices—

Q. All right.

4288 A. —In that way, and from those same figures.

Q. Now, may we just turn—

A. (Continuing). Which you say reflect Commonwealth Edison poles.

Q. The result of your calculation is that by means of this factor, you have factored back whatever conditions existed in that year 1923, throughout the period?

A. I testified that I had adopted his assumption that there was no change in labor efficiency or output per man hour, whatever it was."

Referring to Exhibit No. 4 and the factors 26.6 and 73.4 under 1922 and the 1923 percentages, 28.6 and 71.4, what Mr. Sloan did was when he got the ratio of labor and material to the total cost of a particular account in a given year, and got his factor of conversion, he applied the weighting as be-

tween labor and material in the years, whose gross addi-

4289 tions he was converting. I did not do that in this par-

ticular exhibit. I did in others. I did in the exhibit that you showed me.

I testified that Sloan took the average of Western Electric prices by billings, and on the contrary, I, in my work, had taken the prices at the time that the addition was made on the books. I illustrate the effect of that by saying that if prices were going down, and there were one thousand feet of lead cable that cost $1,000, one dollar a foot and then when it went into the plant it cost $900, my method was to take the price at which it had gone into the supplies account and was later credited to supplies and charged to plant. Mr. Sloan's method was more nearly analagous, I would say, to

taking the prices—the current prices at the time it was

4290 used. Whether by reason of that fact he got higher prices

for Western Electric material than I did would depend so far as that one factor is concerned upon the lag between

current prices and supply prices, S N 2 prices. It would depend entirely, of course, upon the trend at the time. The trend was upward from 1911 to about 1921, generally speaking. I do not mean all the things, but generally speaking the price trend was upward. In the latter years of the period it was down.

I don't know whether or not it is a fact that prior to 1930 and 1931, the supply account of the Illinois Bell Telephone Company on the average turned over about once in
4291 either three or four weeks.

"Q. Well, if that is true, then this point does not mean anything, does it?

A. The illustration itself, of course, does not cover the entire difference between current prices and SN 2 prices. I have made no analysis of that because I was not interested in that. What I was interested in was the figure at which these things went on the books, and my past experience always had told me that there is very often a substantial difference there."

I know that there are such differences in this case. I don't know how it affects it, because, of course, Sloan's method would result in a loss to the company as long as prices were rising, so far as that factor of lag is concerned. But my method of course really implies other factors to which I did not refer, and which may work out in all sorts of ways.
4292 SN 2 prices are not current prices in all cases, and very often, as I have testified, differ widely. That has been my experience always and everywhere, in this case and other cases.

My method in these other accounts was not identical, in the respect that I have been discussing with my method in exchange pole lines, in that I took the dollars at which the material went on the books.

"Q. Yes, and thus took prices from Sloan's figures that represent amounts not based on the actual condition, the actual classification of plant, but based upon a particular item of material.

A. Those being prices, I take it, at which such materials, 600 pair 22-gauge cable for example, could be bought on June 30th, 1923.

Q. Of course, but my point in this is, again, just the

same, Mr. Cummings, that what you did was to get the dollars of material for the time the gross additions were made, and you took your quantities, and then in order to get the price at the June 30th, 1923, level, you did not get the
4293 actual prices of the material that was in, but you took prices based on the trend of one class of material.

A. Not based on a trend, Mr. Thompson.

Q. Well—

A. (Continuing): They were instant prices, as I understand it.

Q. Yes, but in the cable account—they were prices for cable that was of a cheaper type.

A. Well,—

Q. (Continuing): Than some of the cable actually in the plant.

A. I do not know."

I made a comparison of the ratio of work done under routine estimates and that done under specific estimates respectively to the total construction work of the Illinois Bell Company, and then compared the ratios with the figures appearing on Sloan's Exhibit 51.

Mr. Sloan's Exhibit 51 includes construction work equalling in dollars all of the plant of the Illinois Bell Telephone Company as of June 30, 1923, whereas the gross additions which I use as the basis for that comparison are for the two and a half year period, 1921 down to June 30, 1923.

4294 In my direct examination, I stated in one instance that the testimony I was giving was my opinion and that of Mr. Wray as we had both expressed it in the previous hearing.

Many of the exhibits that I have introduced in this case bear the legend "J. G. Wray & Company." On a number of the exhibits, in one column I have "Sloan" and the other column I have "Wray." I think I have used the designa-
4295 tion "Wray" there for the obvious reason that I am in the employ of J. G. Wray & Company. And then, it is our practice to designate our computations in that manner. I have conferred naturally with Mr. Wray as my chief on all of this, and I know of no difference of opinion between us on it. All of the exhibits which I have introduced were submitted to him before they were introduced, except that quot-

ing from memory, of course—X-12-A, X-13-A, B, C and D, were prepared day before yesterday during Mr. Wray's absence from the city and he did not see them prior to the introduction. With that exception my statement will stand so far as I recall.

I have investigated to see what I could find about the
4296 Indiana Bell case and what I found was in line with Mr. Thompson's statement this morning (concerning the use of a typical labor unit).

Exhibit A-212 is a representative weighted plant which purports to show the material cost in the central office, telephone equipment account 221, for each of the years 1913 to 1922—for the period ending November, 1922. We have copies of these. I have not compared them in detail, but they
4297 appear the same. This representative weighted plant was used by Mr. Halsted, and Mr. Wray testified to that in the Federal Court in Indianapolis, in converting the 1916 to 1920 five year average unit cost to 1913 to 1922, ten year average unit cost, and to November, 1922, spot level but as I testified yesterday, personally I neither approved or disapproved. I was not asked to approve or disapprove. I did develop an index from these figures. I could develop the index without approving it. I had no hand in the preparation of this. I was not consulted and I never gave it a check. I would not assume the responsibility for its accuracy or inaccuracy.

4302 "Q. I will ask you if it is not a fact, Mr. Cummings, that you approved for use by Mr. J. G. Wray, the senior member of your firm, in the Indiana Bell Telephone case, in the Federal Court in 1923, the conversion factors based on a constant cross section of typical weighted plant and then applied, and approved the application of that typical cross section of plant to seventy different exchanges in the State of Indiana?

A. That question involves several parts, and to nearly all, the answer is no.

Q. Tell me what the answer is yes to and what no."

I developed the index curve which I believe Mr. Wray testified to although I was not present at the time. I understood he put it in. I developed it from these figures furnished me by Mr. Halsted without inquiry as to the accuracy of

those figures. I knew the general method of how they were made. The tables speak for themselves, I think. What use was subsequently made of them I do not know of my own knowledge.

Redirect Examination by Mr. Goldstein.

I still stand by the statement made yesterday that I was on the lookout for Commonwealth Edison poles under routine estimates and not under specific estimates, because of the statement of Mr. Lawbaugh of the Plant Accounting Department of the Illinois Bell, who stated that there were no Commonwealth Edison poles included in these estimates.

(Objected to by Plaintiff. Objection; overruled.)

I still stand by my statement that the day before yesterday Mr. Lawbaugh stated that, to his knowledge, this was the first instance that there was included some joint poles in the lists of material placed on specific estimates. There was nothing unique in the fact that some of these estimates had labor, and some had material. There were other instances of the same kind. So far as I know that did not involve any joint poles in which the Commonwealth Edison was involved.

On cross-examination, in connection with Exhibit X-8, I was asked about Class "G" labor and whether such labor was used in placing guard arms and brackets, etc., and I said that I did not show brackets separately because they are not classed as major items of materials. In telephone practice it is customary, in order to avoid an interminable list of items, to divide the items into classes which are designed as major and non-major, or minor, or miscellaneous items. In unit costs it is customary to set up specifically the major items only, and to weight into these major items a proper proportion of non-major items. That is the practice, so far as I know, of all Bell Companies. I know it to be the practice, for example, of the New York Telephone Company and the Illinois Bell Telephone Company.

I stated in my answer that I knew that the placing of these non-major items was included in the labor units which we used as trial units, because I was familiar with the practice of the New York Telephone Company, who made up these trial units, in that respect. That labor is, in fact, included

with the guard arm labor, and, therefore, in using units developed by the New York Company I have made full allowance for the placing of the brackets referred to.

I have testified about the estimate ledger. I have be-
4309 fore me the Standard Estimate Routine Bell Telephone System. On page 18, starting on page 18, paragraph 3, headed "Estimate Ledger, Exhibits 35 to 42" I find the following description:

> "Estimate Ledger sheets should be maintained by the Plant Accounting office for each specific and routine estimate. The estimate ledger should furnish a detailed and cumulative accounting record of the performance under each estimate, and should be used as (a) an aid to the supervisory forces during the progress of the work, (b) a basis for the compilation of the final completion report by the plant accounting office, (c) a basis for the development of unit cost data whenever such data may be required."

Item (c), of course, is the purpose for which I have used it in the present case, and in many instances in prior years.

Paragraph 4 lists various forms and their uses.

Paragraph 5 reads:

> "As an aid to the departments responsible for the supervision of work performed under estimates, and to insure that the estimate ledgers correctly reflect actual performances, representatives of such departments should inspect the estimate ledgers monthly as soon as the record for the prior month is completed. If the
4310 engineers who prepare the specific estimates are so located that they do not have convenient access to the estimate ledger sheets, the plant accounting office should forward blue prints of the estimate ledger sheets of estimates on which sufficient charges have been reported to warrant the furnishing of data thereon."

Paragraph 6 reads in part:

> "Postings to the estimate ledgers should be made monthly as follows: (a) post the charges and credits from the summaries of material used, supply expense, labor, overhead expense, stable and garage expense, sundry disbursements, Western Electric bills and credits, and other charges and credits. (b) where the plant accounting system is such that information as to productive

labor hours is obtainable, post in the space 'Detail of Labor,' the total number of productive labor hours, and the cost thereof, separately for each class of labor."

That is, linemen, groundmen—I should say, for example, linemen, groundmen, conduit men, cable placers, cable testers, cable splicers.

"The total number of productive labor hours, and the total cost thereof, without regard to the class of labor. Note: The labor cost should include lost time and local plant administration, but not overhead expense."

4311 Those are the charges that I have used as the direct labor charges throughout all of my studies.

"(c) Post in the space 'Detail of Material Added (Construction)' from the material quantities all important items of material used. These items should include at least plant units as established for retirement unit costs, and may include such other items as manhole castings, cement, sand, gravel, strand and so forth, as may be found desirable. Where that information is readily obtainable, the material costs only, excluding supply expense for each plant unit, should be recorded."

And those are the material costs that we have used.

"(d) The costs of miscellaneous material, that is, other items not recorded separately and exempt material should be posted in the columns provided."

The rest of that paragraph relates to retirements. Those provisions were in effect during this period.

4312 That routine was approved October 1, 1920, and was put into effect by the Illinois Bell Telephone Company at the beginning of 1921, and I believe I testified that that is the reason why we did not go back of 1921 in our study.

"Q. Mr. Cummings, on record page 4206, with reference to the question of the extent to which wastage is included in the ledger sheets, you were asked the following questions, and you made the following answers:

'Q. Does it, on its record, allow for all of the wastage that exists?' And you answered:

'A. I assumed it did, I assumed the records showed it.'

And you were asked:

'Q. What are you trying to do now is, to get this material on a reproductive basis, aren't you?' And you answered:

'A. Yes.'

Q. Then, your answer is this, isn't it; that your figures include such wastage as is entered on the company's books?

And you answered:

'A. Yes.'

Q. And they do not include anything but that?

And you answered:

'A. Right.'"

4313 When I made the answer "yes," and the answer "right" to the last two questions, I had in mind not the fixed capital account on the company's books of account, but the estimate ledgers from which I drew my figures, because that is what we had been discussing.

The quantities on the estimate ledgers include a full allowance for wastage.

When I testified that I assumed that the record showed all the wastage that existed, I meant that my calculation assumed that fact, because I knew the record included it.

4314 Referring to the question, on cross-examination, in which I was asked whether it was not a fact that in 1921, 23 per cent of the poles were treated, in 1922, 85 per cent, and in the first six months of 1923, 80 per cent. I have since investigated the facts.

I examined our working papers yesterday afternoon, and find that we have in the 35-B poles no record of any treated poles for this period. 35-B poles comprise 55 per cent of the total poles placed during this two and a half year period. The 30-B poles for this period, which comprise 13 per cent of the total poles set, we found 9 per cent out of the 13 per cent of the total, or a little over 1 per cent of the total for 1921 were treated. In 1923, none; in 1922, only 40 per cent of the 13 per cent were treated. That is, 40 per cent of that portion of the 13 per cent for the year 1922.

4315 Now, that is as far as I got with those two sizes of poles which, between them, account for two-thirds of the total poles, and I will make a further search before the end of the case to get exactly the percentage for each year and for the other sizes which I did not look up yesterday, but which are a minor portion of the total poles placed. Mr. Thompson's figures, therefore, do not appear to conform to what we found on the record.

Referring to my cross-examination as to the difference between Mr. Sloan's method and my method of treating the cost of cable placed—my method was simply to take from the estimate ledgers the quantities of each size of cable
4316 placed during that year, and the price at which that same cable was charged to plant, and then to price out that same size of cable at Mr. Sloan's June 30, 1923, price and determine, by comparison between the two results the percentage of increase or decrease in price. Mr. Sloan used unit prices for each year which he ascertained from the purchase record so that the difference between us is as to whether purchase prices as used by Mr. Sloan, or the prices at which the material was charged into plant is the proper basis for comparison between the book cost and the June 30, 1923, level. For the reasons I have already stated, the book cost is the proper figure to use and not the purchase price. My method would take into account the actual prices charged on the books for each different kind of cable and for the same kind of cable if priced differently during this period, because I took the actual dollars.

4317 When I stated on cross-examination that I did not claim that the index that I developed was the correct index, but merely that it represented what the company's records show, and that was the only claim I made for it, I meant that I took Mr. Sloan's method and applied it to the facts in the company's experience, instead of applying his method to the assumptions which he used, without claiming anything for the method. With respect to the Indiana case, I neither testified there, nor offered an exhibit in that case.

Re-cross Examination by Mr. Thompson.

"Q. Of course, with respect to the treated poles, you cannot get all of the poles that were treated from the estimate ledger, can you?' Isn't it a fact you have to go back to the invoices?

4318 A. The invoices don't show what jobs the poles were used on. It might be possible to buy a pole and store it in the pole yard, until it rotted, and if it didn't get into plant, we would not be interested in that pole."

I assume the company does not deliberately waste poles, but what I meant to illustrate by that was that what we were interested in were the poles that were charged to plant, and we took the record as it stood in that respect.

"Q. I have just asked you if it is not a fact that in order to get this information you have to go back to the invoices to get it?

A. We found, as I stated, several notations on the estimate ledgers that the poles were treated. Whether those notations were omitted in other cases, of course, I don't know."

As to whether the number of poles that I have given were the only treated poles for those gross additions in 1921, 1922, and the first half of 1923, I am stating simply that is what the records that we asked for and were furnished us, showed.

"Q. Now about wastage, one question there. You got in your gross additions for a given year, when you took the figures off of the books for 1921, just like that pole line account there you got the actual dollars for your cable in your materials?

A. Not from the books; from the estimate ledgers.

Q. All right. I don't mean a particular book, but from the records of the company. So that was actual dollars?

A. Yes."

When we came to price that cable out at the June 30, 1923, level, we took a unit price from Sloan's appraisal that was a unit price per foot and applied it to the quantities in
4320 plant, because those quantities on the estimate ledger included wastage. When we got our unit price on cable, we applied it to the quantities that were on the estimate ledger sheets. Our work sheets will show that. You may examine them. Mr. Sloan has them, I believe.

I don't think I said that the difference between me and Sloan on these prices is a difference in the method of determining the time at which the materials entered on the books.

Referring to the question of our having used unit
4321 prices in pricing out the material at the June 30, 1923, level, that represented merely the type of material upon which Sloan had plotted his trend. I used those prices, so did Mr. Sloan for fixing the end point of the trend. I took the dollar quantities of material in these various accounts as of the time they went into the plant, as shown by the estimate ledger. Then I found the units on the estimate ledger sheets, which are not necessarily the units in plant, and then took the prices appearing in Sloan's Exhibits Number 1 and Number 50, and applied it to all those units.

4322 "Q. Now, what you did—and here is your error, I am asking you if this isn't correct, that you took the prices that Mr. Sloan had used for trend purposes, that were limited to one kind of material, and then you priced out all the units, so far as the June 30, 1923, figure that you got is concerned, on the price of that one unit used by Sloan as a conversion factor.

A. I am not clear as to what you mean by "kind." I applied, for example, to all 600 pair 22 gauge cable which we found on the estimate ledger sheets, in pricing that out at the June 30, 1923, level, I used the price of 600 pair gauge cable which Mr. Sloan had used."

The 326 35-B poles I priced out at $18.95 per pole, as of June 30, 1923. That was the eastern price of the cedar, untreated pole. If any of those poles that had been added in 1921 were treated poles, I have an error in it. I have
4323 not measured the error, of course. I have stated I would go into our records further before the end of the case. But if there are treated poles in that account, then there is an error in my figures.

(June 4, 1932.)

JOHN S. HAGBERG, on behalf of defendants, testified as follows:

Direct Examination by Mr. Goldstein.

4330 My name is John S. Hagberg. I reside at Highland Park, Illinois. I am employed as a senior accountant
4331 by Touche, Niven & Company, public accountants, who have been established in business for more than thirty years, and who have offices in Chicago, New York and the principal cities in the United States; in Paris, France, and, by association with George A. Touché & Company, London; offices in the principal cities in Canada, British Isles and South America. I have been associated with that company close to fifteen years. Before that, I was employed by different commercial concerns. I went to school in Sweden and then was employed in Germany and came to this country about 1902.

I am a member of the American Institute of Accountants.
4332 My duties in connection with my employment with Touche, Niven & Company have been auditing and examination of accounts and cost accounting methods of principally larger manufacturing concerns. I have been engaged in installing and revising cost accounting systems of several manufacturing concerns.

I was employed by the City of Chicago on or about January 1, 1932, in connection with the present case. My employment was particularly in connection with the plaintiff's showing of the Western Electric profits and the costs allocated to the Bell and non Bell business. I was present in the courtroom most of the time when Mr. Gregory testified in this case and I was present when he testified on the matter of Western Electric costs and profits shown in Plain-
4333 tiff's Exhibits A-77 and A-79. I was present when those exhibits were offered. I have read his testimony.

In connection with my examination of the data underlying these exhibits, I examined the binders referred to by him in his testimony, and the records, and made investigations at Hawthorne and in the New York headquarters of the Western Electric.

Exhibit X-15 entitled "Western Electric Company Profit and Loss, year 1929," was prepared by me and under my supervision with the assistance of the employes of the
4334 Western Electric. They are practically all the Company's figures so far as the first two lines are concerned, including the total sales. That is, I was in agreement with the Company on those figures. Under the line "Gross profit" the figures "Basic gross profit adjusted" are also the Company figures shown in the binders or obtained through the assistance of the Western Electric employes. That answer also stands for the allocation between the Bell and the non-Bell and between the telephone apparatus, lead-covered cable and supplies. Concerning the two lines shown under "gross profit" as "Manufacturing surplus and current underrun" it is necessary to bear in mind that the Western Electric Company, by reason of using standard costs as defined by Mr. Gregory, is required to make adjustments thereto, in order to arrive at the gross profit figure, and these ad-
4335 justments depend upon standard shop cost of sales as a basis of allocation between Bell and non-Bell busi-

ness, and depend upon sales as the basis of allocations between Illinois Bell and the Bell System, as between the Chicago Division and the Illinois Bell as a whole, on Mr. Gregory's basis of allocation in arriving at the net profit in Exhibits A-77 and 79 and A-93 to A-98.

The first line, "Manufacturing surplus and current underrun" shows $17,720,000 in the black. This means that a group of adjustments resulted in additions to the basic gross profits and resulted because the actual expense in regard to labor cost, material cost and overhead combined on the manufactured articles to which they applied was less than the standard or estimated cost for the aggregate of these three cost factors included in the standard costs for the year for such manufactured article.

The second line, "Manufacturing surplus and current underrun, $15,247,000," in the red means that another
4336 group of adjustments resulted in deductions from the basic gross profit and resulted because the actual expense in regard to labor cost, material cost and overhead combined on the manufactured articles to which they applied, was more than the standard or estimated cost for the aggregate of these three cost factors included in the standard costs for the year for such manufactured articles.

The next two lines, "Inventory revaluation and reserves," show on one line in the black $122,000, and in red, $6,747,000. That means that to the standard inventory valuations which the Western Electric uses as the first step in valuing the inventory at the beginning and end of each year, the Western Electric Company made a group of additions and a group of deductions to arrive at the inventory value of cost and market, whichever is lower.

The detail showing manufacturing surplus and current underrun and the inventory revaluation and reserves will appear in statements which will be offered by me as Defendants' Exhibits X-16, X-17 and X-18.

4337 The figures under "Total" from the four lines following "Basic gross profit," represent an aggregate of the adjustments and were taken from the binders, and in agreement with the Company's employees. So, also, the figures shown in the columns under "Total" for the telephone apparatus, lead-covered cable and supplies were taken from the binders, and were in agreement with the employees of the

company. The binders did not show, in each case, where the allocations of adjustments were made to Bell and non-Bell. They did not show in each case the gross additions that were allocable to Bell and non Bell, and the gross deductions
4338 that were allocable to Bell and non Bell. In many cases the allocation was made of the net result of the certain additions and certain deductions.

To arrive at the gross additions allocable to Bell and non Bell and the gross deductions allocable to Bell and non Bell in those cases, I was compelled to make my own allocation.

The figures in the line, "Total gross profit" and the allocation to telephone apparatus, lead-covered cable and supplies, and the division of each class between Bell and non-Bell, are in agreement with the Company's own figures, as furnished to me. All the other figures on that statement, both for total figures and the distribution between the classes of product and between Bell and non Bell, are all taken from the Company's binders, that were furnished by the Company.

The Company's records and the binders as I found
4339 them, treat telephone appliances and special products as one class of products, known as telephone apparatus. That is, they treat them as one class in considering the costs and adjustments in their allocation between the classes of products, and not as to sales. In their records, under the main heading of "Telephone apparatus" are included telephone appliances and special commercial products.

Exhibit X-15 shows, that for telephone apparatus alone the total adjustments that were spread over all items of that class were $30,798,000, covering the manufacturing surplus and current underrun, and being the totals of the additions and the deductions. It foots to that amount.

The cost of sales of telephone apparatus in 1929, as shown on Exhibit X-15, by deductions, was $164,350,000. The gross adjustments represented 18.7 per cent of such total cost of sales. The sum total of the adjustments applicable to
4340 telephone apparatus and allocable to Bell customers, to be spread among the customers in the Bell System, was $28,414,000, in the year 1929. That represents 19.84 per cent of the cost of sales of telephone apparatus to all Bell customers.

The binders did not show, and the Company employees advised us that it had not been made, and that they had no data

available from which we or they could determine the adjustments applicable to the separate hundred thousand or more items making up the class "telephone apparatus."

The same answer was made to me with respect to the determination of the adjustments which were applicable
4341 to the items which were sold to the individual Bell customers, including the Illinois Bell or the Chicago Division of the Illinois Bell.

With reference to records available to determine the sales of the separate items of telephone apparatus between Bell customers, they advised us that there was no such record of individual items. We went to the Chicago distributing house of the Western Electric Company in order to check the sales figures for the Illinois Bell, and we found that the records showed only the gross billing, and not by individual items.

Exhibit X-15-A, entitled "Summary of Sales," and Exhibit X-15-B, entitled "M-201, Sales and Gross Reve-
4342 nue," were given me during my investigation at the Chicago distributing house to show the sales were broken down, and what classes. That is on form X-15-A. On the form marked X-15-B, these findings are just summarized, but individual items of manufacture are not segregated on these forms, nor are the sub-classes making up these main classes divided up.

We only have the main headings of apparatus and equipment, lead-covered cable, supplies materials, transportation, service, and what is called general sales. They are somewhat broken down, but not as to items or sub-classes of items.

What I said with reference to the manufacturing surplus and current underrun was equally applicable to the figures for inventory revaluation and reserves, and their distribution between the Bell and the non-Bell customers and
4343 between the various Bell customers in the Chicago division and the Illinois Bell.

Exhibit X-15, shows the gross adjustments of thirty millions. The exhibit also shows that for manufacturing surplus and current underrun for telephone apparatus, the net adjustments, were only $2,736,000 additions to profit, or 1.66 per cent of cost of sales of telephone apparatus. That is the difference between the two lines, the black figures and the red figures. And this exhibit also shows that there were $946,000 net adjustments by way of additions to profits from,

Bell apparatus, or 66/100ths per cent of the cost of sales of telephone apparatus to Bell customers. The net adjustments which depended on the standard shop costs as a basis of allocation, if they represented the total adjustments, would have a negligible effect on the profits on sales to any or all customers, but it would be as erroneous to consider the
4344 net figures in this instance as it would be to say that because the control account of a ledger of account receivable was out of balance with the detailed accounts by one cent, the errors resulting therein would not be harmful even though the one cent error was the net result of overstatements and understatements in each customer's account aggregating for some customers thousands of dollars one way or for other customers thousands of dollars the other way. I found that the adjustments were apportioned between Bell and non-Bell business, partially by direct allocations and partially on the basis of standard cost of sales. I found, in cooperation with the Western Electric employees, that the adjustments applicable to special commercial products were allocated, in part, by direct allocation and in part by standard costs of sales.

The allocation of special commercial products was on the basis of studies, but a large percentage of adjustments
4345 were allocated on the basis of standard cost of sales.

Exhibit X-16 is entitled "Analysis of Basic Gross Profit, Year 1929." That is merely detail making up the basic gross profits, and was compiled from the binders, with the assistance of the Company, and is self-explanatory, and gives in complete form the figures which Mr. Gregory testified to. In Mr. Gregory's testimony, some of the items were not mentioned. What I have done is to complete them, and get in agreement with the Company on it.

Exhibit X-17 is entitled, "Manufacturing Department—Surplus and Current Underrun, Year 1929." That also represents the detail making up the additions and deductions from the gross profit for the manufacturing departments surplus and current underrun, and was made from the binders, with the assistance of the Company, and was prepared, as I have previously explained. In X-17 I show in the mar-
4346 gin "D-80." That indicates, in each case, the particular adjustments which Mr. Gregory included in compiling the exhibits which we have identified as D-80, and to

which he made reference as bearing upon the .2 of 1 per cent calculation. We earmarked those items by putting "D-80" in front of them, in the margin.

Exhibit X-17 shows that there are adjustments in the several factories, in the distributing houses, and in the merchandising department, and that the adjustments which in one department of the business and at one location result in additions to gross profit, in another location and department of the business result in deductions from the gross profit. It also shows that the adjustments which add or subtract from the gross profit for telephone apparatus and lead-covered cable are different in the same department of the business and in one location from other locations and departments of the business. Take, for instance, at Hawthorne, the tele-
4347 phone apparatus showed an addition adjustment for shop surplus in production of $4,575,000 and the lead-covered cable showed an addition of $804,000, but at Kearney it showed a deduction of $6,636,000 for telephone apparatus but an addition of $458,000 for lead-covered cable.

Exhibit X-18 is entitled "Inventory Revaluation and Reserves, year 1929." That represents the detail of the items, inventory and revaluation reserves, shown in X-15, and these items were explained by Mr. Gregory; but X-18 is the complete statement compiled from the binders, and with the assistance of the Company, whereas, Mr. Gregory just testified to certain of the items.

This again shows the variations in amount and character of adjustment at the different locations and different departments.

4348 Exhibits X-19 to X-25, inclusive, represent, for the years 1924 to 1931, profit and loss statements corresponding to profit and loss statement X-15 for the year 1929. The details for each of these exhibits for the years 1924 to 1931, other than 1929, corresponding to Defendants' Exhibits X-16, X-17 and X-18 for the year 1929, were prepared, and a typewritten copy for each of the details, for each of the years 1924 to 1931, inclusive, were furnished to the plaintiff's attorneys.

Exhibits X-19 to X-25, X19 being the profit and loss statement in the year 1924, X-20 being the profit and loss statement for 1925, X-21 being the profit and loss statement for 1926, X-22 the profit and loss statement for 1927,

X-23 the profit and loss statement for 1928, X-24 the profit and loss statement for 1930, and X-25, profit and loss statement for 1931, were all prepared in the same manner, and with the same assistance of the Company's employees as described in connection with Defendants' Exhibit X-15.

4349 Exhibit X-26, entitled "Profit and loss statement for 1916," X-27, profit and loss statement for 1917; X-28, profit and loss statement for 1918; X-29, profit and loss statement for 1919; X-30, profit and loss statement for 1920; X-31, profit and loss statement for 1921; X-32, profit and loss statement of 1922; X-33, profit and loss statement for 1923,—were prepared from the binders and with the assistance of the Company and under my supervision.

4350 In my examination of the binders, I did not find any distribution or any data from which a distribution could be made of the gross adjustments between Bell and non-Bell business for the period 1916 to 1923. The only distribution we could find was the distribution of the net adjustments as between Bell and non-Bell, that is, the net figures, which are the net figures of gross profit, they are divided between Bell and non-Bell, but the details making up the basic gross profit and adjustment, were not available. I have requested the Company to give me the data from which could be determined the allocation or adjustment between Bell and non-Bell. That request has been with the Company for quite a while. I will add to that, that we were told that there

4351 was no data available in that respect, except that we could perhaps, if they were still in existence, obtain them at the locations at the Hawthorne plant and also the distributing houses.

Wherever they were applicable to, and where the Company was doing business or operating at that time, the data on which a split could be made might be available, but they were not sure whether it was or not, or whether it was even in existence.

(June 7, 1932.)

4354 I did not make any allocation for these years in Exhibits X-26 to X-33 between the non-Bell and Bell business. Defendants' Exhibit X-34 is entitled "Gross Profit." That consolidates, on two sheets, the additions to Gross

Profit and the deductions from Gross Profit, total adjustments to Gross Profit, and not adjustments to Gross Profit; and all of the figures on X-34 are taken from Exhibits X-15 and X-19 to X-33, both inclusive.

Exhibit X-34, entitled "Summary Sheets Showing Gross Profits and Adjustments by Years 1916-1931; both inclusive," is intended to show in summary form the additions, deductions and total adjustments, and the result on the net. Exhibit X-35, entitled "Gross Profit and Analysis Summarized 1916-1931," groups the additions and deductions to Gross Profit, the total adjustments, and the net adjustments shown in X-34 according to the period of years. X-35 shows
4355 the extent to which adjustments for telephone apparatus separately, also lead-covered cable and supplies separately, each increased the profit and decreased the profit, how they offset each other over a period of years, as indicated.

The third group of figures on the page entitled "1916 to 1923, Inclusive" shows that for the eight years of that period 1916 to 1923, there was a total of $23,724,000 of adjustments. That shows adjustments which added $23,724,000 to profits found in the column "Total." It shows $84,169,000 deductions from profits. It shows total gross adjustments of $107,893,000, and with those adjustments, the additions and subtractions, did not offset each other by $16,445,000,
4356 the deductions from gross profit being in excess of the additions, by that amount. These totals were broken down on the sheet to show, separately, for telephone apparatus, lead covered cable and supplies, and also each of those total adjustments for each of the separate classes of product, are broken up into those adjustments which come under the category of manufacturing surplus and current underrun, and those that come under the category of revaluation and reserves.

I have purposely made this break-down so as to compare the figures shown on this Exhibit X-35 with the figures shown on Mr. Gregory's exhibit, which has been identified as D-80.

The figures corresponding to these which I have just given for the years 1916 to 1923, are shown in each separate grouping for the period from 1916 to 1925, 1916 to 1926, 1916 to 1927, 1916 to 1928, 1916 to 1929, 1916 to 1930 and 1916 to 1931. These dates just given, mean that I started off

4357 with 1916, and showed the adjustments from 1916 to 1923, and then added another year, and showed the effect of that on the total. Then I showed the effect of the adjustments for 1925, and similarly for each year thereafter, until I reached the total, from 1916 to 1931, inclusive. It covers not only the adjustments, but the total factors in the main groups, making up the gross profit. The years 1923 to 1930, and 1921 to 1930 (shown on page 1) are the same years which were covered by the exhibit prepared by Mr. Gregory in connection with the discussion of the .2 per cent variation in costs, and identified as Defendants' Exhibit D-80.

Exhibit X-35 shows that for the period 1916 to 1931, inclusive, there were adjustments which resulted in additions to profit in the factory of $109,415,000 and adjustments 4358 which resulted in deductions of $163,873,000, or total adjustments of $273,288,000. This figure of $273,288,000 is merely the factory adjustments. It is the manufacturing surplus and current underrun, but not including inventory, revaluation and reserves, excepting as they enter into the factory. The standard shop cost of sales is the basis upon which this $273,288,000 of adjustments are allocated between the Bell and the non-Bell business. They are also allocated on the basis of sales between Illinois Bell and the Bell System as a whole, and between the Chicago Division and the Illinois Bell as a whole.

4359 For the period from 1916 to 1931, Exhibit X-35 shows, that the additions and deductions did not balance out to the extent of $54,458,000, the deductions being in excess of the additions by that amount.

We found that the net differences, in the period from 1916 to 1925, between the adjusfments, which increased and the adjustments which decreased the gross profits became greater, and reached the peak in 1925. From 1925 to 1931 the adjustments which lead to additions in gross profit exceeded the deductions, so that by the end of 1931 the net difference between the additions and the deductions declined from $73,884,000 in 1925 to $54,458,000 in 1931, in so far as the 4360 factory profits are concerned. By that I mean, the manufacturing surplus, and current underrun.

For the period 1921 to 1930, which was the identical period covered by Mr. Gregory in his exhibit identified as D-80,

we found that in the manufacturing surplus, adjustments to standard costs which added to the profits $86,515,000, and there were adjustments which resulted in deductions from profit of $80,664,000, or total adjustments which had to be separated between Bell and non-Bell customers, and between the Illinois Bell and the Bell System, and the Chicago division and the Illinois Bell, of $167,179,000.

4361 Those additions and deductions resulted in a net difference in favor of additions, to the extent of $5,851,000, but this figure of $5,851,000 has no significance whatsoever because the $167,179,000 of adjustments was applicable to different kinds of merchandise purchased by different classes of customers, and some of the customers would be affected by the adjustments which resulted in increase of the net profits of the Western Electric to the extent of $86,515,000, and others by the adjustments which resulted in decrease of $80,664,000.

As the Western Electric prices are based upon the standard costs, and as the standard costs would result in the gross profit before these adjustments, the customers who purchased articles to whose standard costs adjustments were applicable, which resulted in addition to the profits, would have purchased articles from whose sale price the Western Electric would receive $86,515,000 more profits than the Western Electric had estimated at the time when the standard costs were established upon the basis of which the prices

4362 were made. Similarly, those customers who purchased articles during the period 1921 to 1930, upon the basis of standard cost to which the $80,664,000 of adjustments resulting in deductions were applicable, would have purchased articles whose prices were based upon standard cost figures, which resulted in profit to the Western Electric in an amount which was $80,664,000 less than the Western Electric had estimated at the time of the establishment of these standard costs upon which these prices were based.

4363 I have made no investigation of how the Western Electric Co. prices are based, except that I have taken the testimony of Mr. Gregory as being correct, that in setting the prices the standard shop costs were taken into consideration.

I have Mr. Gregory's testimony to the effect that in setting their prices, they took into consideration their standard

shop costs.

4365 (Counsel for plaintiff states that standard cost is one of the factors but not the sole factor that is taken into consideration in fixing prices of Western Electric Company. Counsel for city stated that if counsel would permit statement to stand he would not further pursue the subject. Counsel for plaintiff agreed to let statement stand.)

4366 I made an examination of the Gregory exhibit entitled "Statement showing the relation of manufacturing department surplus to shop output, 1921 to 1930" D-80.

4367 That statement purports to show that the aggregate of the adjustments which depend upon standard shop cost as a basis of allocation, 1921 to 1930, and which shows adjustments which increase and adjustments which decrease the profits for the period from 1921 to 1930, balance each other except as to the extent of $1,833,000 or .2 per cent, the additions being in excess of the deductions by that amount; and for the period 1923 to 1930, the adjustments which added to and which resulted in the subtraction from profits in the factory balance each other excepting to the amount of $6,323,000, the deductions exceeding the additions by that amount; and that the net variation between the additions and deductions for the period 1921 to 1930 represent .2 per cent, and for the period 1923 to 1930, .7 per cent of the output.

I examined the figures shown in Exhibit D-80. I found that Mr. Gregory in that statement used the net figures, and
4368 not the gross adjustment figures. Defendants' Exhibit X-36, entitled "Summary of Details of Manufacturing Department, Surplus Items resulting in Net Figures, shown in Exhibit D-80" was prepared by me or under my direction. Defendants' Exhibit X-37, entitled "Summary of Details of Manufacturing Department, Surplus Items resulting in the Net Figures shown in Exhibit D-80 combined in Groups by Series of Years" was prepared by me or under my direction. Exhibit X-36 shows the total additions and the total deductions from gross profit, the total adjustments to gross profit, and the net adjustments to gross profit for each of the years included in D-80, and only of the items which are contained in D-80; in other words, we have not included in X-36 any additional items of adjustment than those shown

in D-80, and the purpose of Exhibit X-36 is solely to show the gross adjustments of addition and subtraction from which the net figures are derived which are shown in D-80. X-36 separates the gross adjustment making up the net figures in D-80 and the net figures in D-80 between Telephone 4369 Apparatus, Lead Covered Cable and Supplies. The figures shown in X-36 were taken from the defendants' Exhibits, X-15 to X-35, inclusive. I will compare X-36 with D-80, for the year 1929.

There is a net deduction in D-80 which shows $1,250,000 as a deduction. Now if you will look at X-36, it appears that that $1,250,000 shown in D-80 (which is the same as the $1,249,000 appearing in the column "Total," under the year 1929, net adjustments to gross profit), is the net figure which is the result of a series of adjustments, which resulted in an increase in profit of $9,607,000, and other adjustments which decreased profits to the extent of $10,856,000, or a total of $20,463,000 of adjustments which were spread over the various items sold to the various customers of the Western Electric in unknown proportions.

The figure in D-80, $1,250,000 deductions, appears as shown from X-36 to have been the final result of adjustments 4370 which resulted in additions and adjustments, which resulted in subtractions from gross profit in the class of Telephone Apparatus, Lead-Covered Cable and even Supplies in varying amounts, and spread between customers in quantities that were unknown.

The result in D-80 for these years is revealed by X-36 to have been arrived at by the combination of the two large adjustments in the years 1924 and 1925 in Lead-Covered Cable, aggregating deductions of $13,179,000, whereas, in the other years, lead covered cable adjustments were minor, compared with the Telephone Apparatus adjustments.

X-36 shows with reference to the net adjustments in 1921, 1924 and 1925 that those adjustments which represented practically all of the gross adjustments in those years, whereas in the other years they were net adjustments, which represented a small part of the gross adjustments for those respective years.

X-37 groups the additions, deductions, total adjustments to gross profit, and net adjustments to gross profit in periods in a manner corresponding to that used by Mr. Gregory in

D 80. X 37 is the first group in the period shown in D 80.

The extent of the difference between the adjustments that add, and the adjustments that subtract from profit 4371 will be dependent upon the particular group of years which are used in the test. We have set up in X 37 for the years 1921 to 1930, inclusive, as used by Mr. Gregory, additional groupings of two nine year periods; groupings of three eight year periods; groupings of four seven year periods; and groupings of five six year periods.

Each of these groupings are of consecutive years. From Exhibit X 37 it appears that entirely different results will be shown in each of these groupings, even though the same number of years were used, provided only different consecutive years are taken into account.

It shows that the gross adjustments vary, and the net adjustments will vary, and that the variation between the gross adjustments and the net adjustments may result in one case in additions to profit and in another case to deductions to profit. It also shows that whether you consider one or the other periods, and whether you consider the gross additions or the net additions, the significance is not in the percentage to gross output, but in the number of dollars of adjust- 4372 ments which must be spread among the various items and among the various customers purchasing those items to which the different kinds of adjustments become applicable.

The first group shows gross adjustments of $120,412,000 with a net variation in favor of the additions to the extent of $1,834,000.

That is the first ten year period. On the other hand, if instead of taking the ten year period 1921 to 1930, we take the six-year period from 1922 to 1927, we find additions to gross profit of $20,925,000, deductions from gross profit of $30,658,000, or total adjustments to gross profits of $51,583,000, as compared to the $120,412,000 for the ten-year period of Mr. Gregory.

But we find that during the six-year period from 1922 to 1927, the $51,583,000 of gross adjustments resulted in a variation of $9,733,000 in favor of the deductions from gross profit as compared with $1,834,000 shown by Mr. Gregory in favor of the addition out of a total of gross adjustments of

$120,412,000.

4373 For the ten year period the net adjustment to gross profit is about 15 per cent of the total adjustments, whereas, for the six year period, 1922 to 1927, it is 18 per cent of the gross adjustments.

If instead of taking the ten year period of Mr. Gregory, which resulted in $1,834,000 of variation in favor of the additions, he had taken the nine year period, 1922 to 1930, the result would have been that with less than $8,000,000 difference in the gross adjustments between the nine year period and the ten year priod, the net adjustments for the nine year period were $5,779,000 in favor of the deductions as against $1,834,000 in favor of the additions in the ten year period, or a difference of more than $6,600,000 in the net figures from a difference of $7,500,000 in the gross figures.

Defendants' Exhibit X-38 "Comparison of Total Amount of Manufacturing, Inventory and Reserve Adjustments, with amounts thereof included in Exhibit D-80," was prepared by me or under my direction.

4374 It shows the comparison of the total amounts of manufacturing inventory and reserve adjustments with the amounts thereof included in D-80. This shows for each year the total amount of the adjustments divided between the additions and the deductions from gross profits, the total adjustment to gross profit which the Western Electric actually had and the portions thereof of which Mr. Gregory included in his Exhibit D-80.

Defendants' Exhibit X-39, entitled "Division of Operating Surplus, Total Apparatus and Equipment, and Lead-Covered Cable, 1921 to 1930, inclusive" is the sheet which Mr. Gregory furnished as the study which he testified he prepared at the time he prepared D-80 and which was to show that the labor adjustments, taken separately, balanced out during the period, and the material adjustments balanced out during the period and the overhead adjustments balanced out during the period, each separately as well as collectively.

4375 I have checked the figures shown on Exhibit X-39 with the binders and the figures of adjustment furnished by the Western Electric, and shown in Defendants' Exhibit X-36.

I found that the figures shown in the last three columns of X 39 are in each case net figures and are the result of combinations, of adjustments which increase and of adjustments which decrease profits. Similarly, the column "Total" is the sum of sub totals of net adjustments.

For the reasons I have already given, the important figures are the gross adjustments and not the net adjustments, where more than one kind of item is manufactured, and where more than one customer purchases the various items in varying quantity.

The column "Process Merchandise" does not mean "material." It means the account wherein the Western Electric each month carries the labor and material on merchandise in course of completion. Therefore, the figures in the column are the net result of a combination of labor, material and overhead adjustments.

4376 The effect of spreading the combined results of the adjustments to labor, adjustments to material, and adjustments to overhead, between the Bell and non Bell customers, according to the cost of sales is, that it must be assumed that the cost of the sale of the merchandise sold to Bell customers bears the same ratio to the cost of the sales of the merchandise sold to non Bell customers, as the adjustments to bring such cost of Bell sales from standard to actual costs bear to the adjustments which bring the non Bell merchandise to actual cost. Such a condition would only exist if Bell and non Bell customers bought, during each period, proportionate quantities of each and every kind of merchandise, or in combinations which would bring about the same result.

4377 The effect with reference to the purchases of the Illinois Bell Telephone Company would be that in order that the purchases by the Illinois Bell should bear their proper proportion of the adjustments which are applicable to the Bell System as a whole, as a result of a distribution based upon the ratio of sales of telephone apparatus, lead-covered cable and supplies by the Western Electric to the Illinois Bell compared with the sales to the Bell System as a whole, it would be necessary that the amount of sales of merchandise sold to the entire Bell System bear the same ratio to the amount of sales to the Illinois Bell as the adjustments to bring the standard cost of the merchandise sold

to the Bell System to actual cost, bear to the adjustments which bring the Illinois Bell standard cost of merchandise to actual cost. Such would only be the case if Illinois Bell and the entire Bell System during each period bought proportionate quantities of each and every kind of merchandise or in combinations which would bring about the same result.

4378 If the amount purchased by the Illinois Bell, or by the Bell System, were changed in any one year to be other than the amounts which the Western Electric actually sold, either by increasing or decreasing the purchases of particular items in reproducing the property on the basis of the prices of any year, the ratios between the Illinois Bell and the Bell System of sales and of adjustments would be entirely different than the ones which would exist under the conditions which prevailed in respect to the purchases actually made in building up the existing property.

Defendants' Exhibit X 40 was prepared by me or under my direction.

It is entitled, "Graph showing variation between standard cost and actual cost of purchases of lead by the Western Electric Company for the Hawthorne Works," and I think the exhibit is self explanatory.

Defendants' Exhibit X 41 is a graph entitled "Graph showing the variations between standard cost and actual cost
4379 of purchases of copper bars by the Western Electric Company for the Hawthorne Works," was prepared by me or under my direction. I have no comment to make on that. I think it is self-explanatory.

Defendants' Exhibit X-42 entitled "Graph showing variation expressed in percentages between standard cost and actual cost of purchases of lead by Western Electric Company for Hawthorne Works"; data taken from Hawthorne M. C. 2.014 reports, was prepared by me or under my direction. That explains itself.

Defendants' Exhibit X-43 entitled "Graph showing comparison between standard cost and actual cost of purchases of copper bars by Western Electric Company for Haw-
4380 thorne Works" was prepared by me or under my direction. That explains itself.

Defendants' Exhibit X-44 entitled "Graph showing com-

parison between standard cost and actual cost of purchases of lead by Western Electric Company, Inc. for Hawthorne Works," was prepared by me or under my direction. It is self explanatory.

Defendants' Exhibit X-45, "Graph showing comparison between standard cost and actual cost of lead purchases by Western Electric Company for Hawthorne Works per hundred pounds" was prepared by me or under my direction. I think it is self explanatory.

Defendants' Exhibit X-46 entitled "Graph showing variation expressed in percentages between standard cost and actual cost of purchases of copper bars by Western Electric Company for Hawthorne Works" was prepared by me or under my direction. I think it is self-explanatory.

4381 Defendants' Exhibit X-47 entitled "Graph showing comparison between standard cost and actual cost of copper bars purchased by Western Electric Company, Inc., for Hawthorne Works, per hundred pounds" prepared by me or under my direction. It is self-explanatory.

Defendants' Exhibit X-47A entitled "Standard Cost per hundred of selected items," etc., "of indicated years, for Hawthorne Plant" was prepared by me or under my direction, and taken from the records of the Hawthorne Plant.

That shows merely the dates when these standard costs for the particular items were changed. It is an extraction of selected items from the bulletins of the different years with the dates when they were adopted.

The cost of sales after the year 1925, as they were used in Mr. Gregory's exhibits, and as I used them, included 4382 only the cost of sales by the Western Electric, as they left the Western Electric, and not the cost of sales as it left any of the subsidiaries of the Western Electric.

And similarly the cost of sales before 1925 for export or otherwise represented the cost of sales by the Western Electric and not by the subsidiaries, such as the International Western Electric.

(Exhibits identified by Mr. Hagberg offered in evidence. Objections reserved until after cross-examination.)

4383 *Cross-Examination by Mr. Thompson.*

Whether I am making an apportionment or adjustment with respect to shop variation or other adjustments on gross or net variations and adjustments, I have to have some yardstick to do it by.

In other words, if we have a net shop variation of $1,000,000 and I am going to apportion it, I have to use a yardstick. If we have a gross variation plus of $10,000,000 and a gross variation minus of $9,000,000, we still have to have some yardstick on which to make that apportionment for both of those adjustments.

4384 I do not mean to say, that any effort was made by Mr. Gregory, or has been made by the Company, to apportion the shop variations or other adjustments between these various Bell Associated Companies, or to the Illinois Bell or to the Chicago area.

What they have done is to find out after these adjustments have been made, what the net profit of the Western Electric Company was on its Bell and non-Bell business, and then made the effort to ascertain what the net profit was on the business done with the Illinois Bell and with the Chicago area respectively.

The Western Electric has conducted a very large manufacturing business during all of the years involved in my exhibits.

Subject to check, the following figures are correct:

The sales of the Western Electric Company to its Bell customers for the period 1916 to 1931 were $2,135,000,000, and to its non-Bell customers, $233,000,000 during the 4385 same period, or a total, 1916 to 1931 of $2,368,000,000 worth of manufactures. Out of that total volume of sales of nearly $2,500,000,000, $80,000,000 were special commercial products, leaving $2,288,000,000 worth of sales, 1916 to 1931 by the Western Electric, referring all the time to the Western Electric manufactured articles of telephone apparatus, exclusive of special commercial products and lead-covered cable.

"Q. Now, broadly speaking, this telephone apparatus that I have been talking about consists of Central Office equip-

ment and sub station apparatus, including transmitter, receivers and induction coils, does it not?

4386 A. I am not familiar with their products.

Q. Well, you have examined these apportionments, and you know the telephone apparatus where the shop variations occur consist of Central Office equipment and sub station apparatus largely?

A. I know it includes

Q. You know that from the records, do you not?

A. I know it includes telephone appliances.

Q. Exactly. And that the same general class of apparatus is sold alike to Bell and non Bell customers' telephone apparatus?

A. I have not examined the sales at all.

Q. All right.

A. As to the

Q. Well, then, you do not express any opinion on that question at all?

A. I express no opinion as to how much or what classes of sales were made to one customer, or another customer.

Q. I see. You know nothing at all about that?

A. No."

Subject to check, the total sales of the Western Electric manufactures to Bell, $1,660,000,000, and to non Bell
4387 $154,000,000 or total sales of $1,814,000,000, of which only $77,000,000 were special commercial products, leaving a balance of Western Electric manufactures sold during that period to its Bell and non Bell customers, consisting of telephone apparatus, and lead covered cable, of $1,737,000,000.

I inquired of the accountants of the Western Electric Company whether they had an accounting system by means of which they could apportion these various shop variations and adjustments to each of the hundred thousand or more than one hundred thousand articles manufactured by the Western Electric Company.

I made that inquiry for the purpose of finding out whether there was any actual cost used in addition to the standard cost.

4388 "Q. You knew before I inquired that the maintenance of such a system would be so absurd and expensive that

no manufacturing company would consider maintaining it, did you not?

A. I did not take that into consideration at all."

I have had wide experience as an accountant, and have knowledge of the cost of accounting work in places where I have investigated, but not the cost of accounting in places which I have not made any investigation of.

I have gone over these records of the Western Electric Company in great detail.

I could not give an estimate, as an accountant, as to what additional cost in millions of dollars per year would have been incurred by the Western had it maintained the kind of an accounting system, that I asked the Western Electric whether it maintained, without making a survey of the plant, and the present cost methods, and the operations in de-
4389 tail. I would not venture a guess on it; it would be simply a guess, if I did.

I haven't the slightest idea whether it would be millions of dollars per year because I do not know what it has, what the detail records are. We might be able to use some of the detail records, and we might not.

4390 In referring to the basic gross profit and adjustment figures back in 1924, I did not want to convey the idea that I was denied access to them, because what I meant to say was that repeatedly requests were made for that division between the Bell and the non Bell, and the matter was delayed from time to time, so far as I was concerned, until I finally got the information that those figures had not been prepared by the Western Electric Company, but the data on which they could be made would perhaps be—or "maybe" was the word used—maybe prepared if they were still in existence at the Hawthorne Plant, or any of the other locations, but I had no assurance whether they were in existence or were not in existence.

4391 Counsel reads part of telegram sent to Mr. Goldstein April 5, 1932 as follows:

"All details to the extent that they are now in existence, which were back of the reports made to the comptroller for the years prior to 1924 in which basic gross profits and adjustments appear, are located at the Hawthorne Works and at our various distributing locations. We will make such

details available for inspection at places where they are located when you advise us that you desire to proceed."

I saw the telegram.

"Mr. Goldstein: You know there is a telegram there which states that you did not even know if they were in existence.

Mr. Thompson: Certainly, I have no objection to the introduction of other telegrams or letters pertinent to this."

4392 I made no application; I did not go to Hawthorne to find out whether they were in existence.

The reason we did not go out there at that time was that this was toward the end of the investigation, and they were ready to go on trial with it, and we did not have the time to go out, especially in view of the fact that it was doubtful whether those records were in existence or not.

I have no reason to presume that they would have been denied if they could have given us what we asked for if they could have produced them.

4393 I think there is some more information than was read to me.

I have not checked into the profit figures to ascertain the total profits of the Western Electric Company for any of these years or for any group of years.

The figures that I have presented here in the exhibits, the aggregate profit for the entire Western Electric, as well as the sub-classes of telephone apparatus, lead-covered cable and supplies, and the additions between Bell and non-Bell, have been taken from the statements in the binders without verification as to the books, but I have no reason to
4394 doubt the correctness of them; neither will I certify to the correctness of them.

The only problem that I have here is the apportionment of allocation of profits as between the Bell and the non-Bell business. I qualify that statement to the extent I was not so much concerned in the aggregate profits of the Bell or
4395 non-Bell as I was in the possibility—or the method used in the dividing of the gross profits into the several kinds of apparatus, or appliances, made and sold by the Western Electric Company.

In other words, I was more concerned with the gross profits than anything else.

The term basic gross profit is not so used in the subdivisions as shown in our profit and loss account there, because I have taken the understanding that the Western men had, of what should be designated gross profit, what should be manufacturing surplus and current underrun, and what should be inventory revaluation and reserves. I followed absolutely their division of profits to the extent of including under basic gross profit an item of unexplained difference of $1,800,000.

What is termed basic gross profit as used in these exhibits which I have identified is supposed to be the difference between shop cost and sales prices,—the aggregate of stan-
4396 dard shop cost and sales price. For 1929 there is a complete analysis, an analysis as made by the Western Electric, showing what is included in the Western gross profit.

That is included in Exhibit X-16.

That explains fully the use of the term "Basic gross profit" as taken bodily from the company's analysis of gross profit, and has been classified as basic gross profit after cooperation and work with the representative of the Western Electric Company.

All that one needs to do, where it is desired to know the definition of basic gross profit as used in all these exhibits, is to turn to Exhibit X-16.

4397 But it should not be understood that that is the segregation that I would perhaps have made after a lengthy investigation. For expediency sake, we simply got together and worked it out.

From examination of the records of the Western Elec-
4398 tric Co. it appears that these shop variations and these adjustments gross and net which I have in my exhibits were ones which were currently made by the Western Electric Company from year to year in its business as it proceeded.

Redirect Examination by Mr. Goldstein.

I found that the analysis of gross profit seemed to be a little bit more complete, and a little bit more in detail in the later years than in the earlier years.

The $1,800,000, with the unexplained difference that I testified about, was in 1929. The difference between the adjustments that they explained in detail, and the total left an

unexplained difference of that amount.

4399 When I started to work out at Hawthorne, I asked for, and received and examined the Q2402 I reports which showed the sales and standard cost of sales, and which is identified as Defendants' Exhibit D 44.

When I went to New York within the last few weeks, I also examined the similar reports for the other plants.

That analysis in Exhibit D 44 showed the various subdivisions and sub classes of the main classes that make up the total of their sales, and the cost of sales.

"Mr. Thompson: In connection with Mr. Cummings' testimony, an offer was made by the defendant of Exhibit X 13, among others. The plaintiff objects to the introduction in evidence of Exhibit X 13 which consists of two sheets, one of them purports to be a comparison between Mr.

4400 Gregory's statement D, and apparatus prices as used in the Sloan appraisal for central office equipment, station apparatus, and P. B. X. The second page purports to be a comparison between the Western Electric experience taken from certain costs indices of Mr. Burgess, and the Sloan appraisal.

I think two things are perfectly clear from the testimony of Mr. Cummings. The first is that these are not in fact comparable, neither one of these comparisons attempted to be made. I think his admissions are broad enough to show non comparability. The second proposition, I think there can be no doubt about, he has never shown comparability, and it seems to me very clear that this exhibit ought not to be permitted to go into evidence.

Judge Wilkerson: What do you think about it?

Mr. Goldstein: I will say this, that it is rather odd that, after they have presented their entire Western Electric presentation on the basis that the Illinois Bell is a fair cross section, that the prices of the Bell System as a whole, are to be taken into account, and the costs, and it is then a question of taking a percentage, and now, after they have

4401 furnished us the evidence, and we make use of it, that they should object to it. Now, we will ask that the Burgess index numbers be offered here, we have asked for that, and it has been produced, and it is with an agreement that it be made available when we want it; and we want it.

If we use the very basis they have used in the Western Electric presentation, particularly since Mr. Sloan used Western Electric prices, I cannot see any possible reason for objecting to it, unless they object to their own method of proof. Mr. Sloan has used installation costs, the Western Electric installation costs, and he has used, he says he has used those prices and he has used those installation costs.

1402 Mr. Thompson: Of course the trouble with Mr. Goldstein's argument is, it is predicated upon the proposition he has taken two things that comprehend like articles. In the Gregory trend are receivers, transmitters and induction coils of the years. In the Sloan trend on the other side there are no receivers, transmitters or induction coils prior to 1928, because they were not owned by the Illinois Bell. In the Gregory trend there are loading coils, and there are repeater installations, and of course, they are wholly omitted from the three accounts selected for the classification from Sloan.

In Sloan's trend there is all the reissued Class C stock, there is none of it in Gregory's trend. In Gregory's trend there is the A. H. material, remanufactured by the Western, and there is a qualified admission by Mr. Cummings that it may not all be in the Sloan trend.

So the trouble is, we have a theory, and I think we have proved it to be true, that the Illinois Bell is a fair cross section, but they don't take and make the comparison on that basis. They select out three accounts that are wholly non-comparable with Sloan's trend."

(Objection; overruled.)

1403 "Mr. Thompson: Your Honor, we offer in connection with Mr. Cummings' testimony the exhibits which were identified on cross-examination, which are numbers 212, 213, 214 and 215. Do you want to know what they are, Mr. Goldstein?"

Mr. Goldstein: Yes.

Mr. Thompson: 212 is the Representative Weighted Plant of the Indiana Bell Telephone Company. 213 is the specific estimates that was discussed during Mr. Sloan's testimony, number 22150. 214 is a duplicate of Exhibit 50 introduced by Mr. Sloan on the first trial of this case. And 215 is the work sheet of Mr. Cummings, which he used in connection with the material costs of exchange pole lines.

Mr. Goldstein: To the first one, I certainly object, because the witness has testified he had not prepared it, and he did not offer it, and he did not testify about it, and he doesn't know anything about it. That was in the Indiana Bell Telephone case, it was an Indiana Bell Telephone case Ex-
4404 hibit, it wasn't his. It has nothing to do with the case.
4407 (Plaintiff's Exhibits A 212, A 213, A 214 and A 215, and Defendants' Exhibits Nos. X 15, X 15A, X 15B, and X 16 to X 47A, inclusive, identified by Mr. Hagberg, offered and received in evidence."

(Objection to Plaintiff's Exhibit A 212; overruled.)

GEORGE B. McCANN, a witness on behalf of the defendants, having been first duly sworn, testified as follows:

Direct Examination by Mr. Goldstein.

(June 7, 1932.)

My name is George B. McCann. I reside at Bloom-
4421 field, New Jersey. I am employed by Touche, Niven & Company, public accountants, New York City, as a supervising senior accountant. I have been associated with that company for the past six and a half years. Prior to that I was associated with Klein, Hinds & Finke, certified public accountants, also of New York, for a period of four years. Before entering the public accounting field, I was employed in priyate accounting work by various commercial
4422 concerns. I am a graduate of New York University. I am a certified public accountant of the State of New York. My duties consist principally of the conduct of audits and investigations of large mercantile and manufacturing organizations. I am employed by the City of Chicago in connection with the presentation of the portion of its case relating particularly to the Western Electric exhibits.

The exhibits which are to be offered, beginning with X-48, were prepared by me or under my supervision, in so far as they contain computations.

X-48 is entitled "Average investment, net profits and percentage of return (Per Exhibits A-77 and A-79)—Bell and non-Bell business for the years 1916 to 1930." Exhibit X-48 shows the return on the investment in Bell and non-Bell busi-

ness combined, using the figures appearing in Plaintiff's Exhibits A 77 and A 79.

4423 I have made no change in those figures. I have just added the corresponding figures together. Exhibit X 49 consists of three pages. Page 1 is entitled "Western Electric Company, Inc. Average investment per Exhibits A 77 and A 79 adjusted to exclude excessive cash, current liabilities, reserve for Pension Fund and reserve for depreciation Bell and non Bell business"; page 2 is entitled "Average investment per Exhibit A 77 adjusted to exclude excessive cash, current liabilities, reserve for Pension Fund, and reserve for depreciation Bell Business"; and page 3 is entitled "Average investment per Exhibit A 79 adjusted to exclude excessive cash, current liabilities, reserve for Pension Fund and reserve for depreciation non Bell business." These were prepared under my supervision.

Page 1 relates to the Bell and non Bell business combined. Page 2 relates to the Bell business only, and page 3 relates to the non Bell business.

4424 The column headed "Average Investment" is similar to the column shown in Exhibit X 48, that is a combination of the investment appearing in Plaintiff's Exhibits A 77 and A 79. The column "Excessive Cash" represents the amount by which the average cash balances used in the compilation of Exhibits A 77 and A 79 exceeded the normal cash working balances for the Western Electric Company as shown by the report CR 714 of that company, which I examined.

The column "Notes payable, Others" represents the average indebtedness to banks and others on notes payable. These liabilities are listed in the annual reports of the Western Electric Company as current liabilities and they correspond to the class of liabilities which are included under current liabilities in Poor's and Moody's and in the annual reports of the industrial companies, including the eighty eight companies shown in Plaintiff's Exhibit A 85.

4425 Exhibit X-49½ is a sheet taken from Poor's 1929 Manual, entitled "Public utilities (Western Electric Co., Inc.)" That sheet, at the bottom, under "Statement of working capital, December 31," under "Current Liabilities," includes the class of liabilities which I have included in my "Payables—Others."

There were notes payable that I have shown in the third column, "Others," in X-49 which were not excluded from the investments as calculated by Mr. Gregory in Exhibits A-77 and A-79. The column "Notes payable—Trustees of Pension Fund" represents the average indebtedness to the trustees of the Pension Fund under "Notes payable." In the year 1928, these notes were included under "Notes payable—Others"; we make no distinction between these notes and the notes payable that are listed under "Others." They fall in
the same category, and, therefore, are excluded from the
4426 average investment.

The column "Reserve for Pension Fund" (fifth column, page 1 of Exhibit X-49) represents the amount that is set aside out of profits to take care of future pensions of employes.

The additions to this reserve are charged against profits in each year, and the fund is so built up that it does not participate any further in the profits of the company. The reserve is excluded from the average investment used to determine the percentage of return. That is, it is excluded in our computation, as otherwise the stockholders would be profiting to the extent that the pension fund was included in the average
investment.

4427 Subsequent to 1927, the Pension Fund accruals were built up to participate in additional earnings only to the extent of the interest which is paid to the trustee of the Pension Fund. In those years, where the notes to Trustees are deducted, the interest is likewise excluded from our computation of operating earnings.

That is, I took out from the operating earnings as shown by Mr. Gregory, an additional deduction of interest to the Trustee under the Pension Fund, charged it to the operating earnings, and then I excluded from the rate base the amount of the principal in the obligation to the trustee of the Pension Fund. The column, "Working reserves (part interest and taxes part accounts payable)" represents principally accrued expenses which are properly classified as current liabilities.

The distinction between this class of liability and ac-
4428 counts payable is a purely technical one, as there is no real distinction between a recorded account payable and an accrued expense to take care of some incurred liability for

which no recorded invoice has been entered. The entire amount of the liability has been charged against earnings. I examined Mr. Gregory's working papers for the years 1916 to 1925. I found that in the years 1916 to 1925, that those
4429 working reserves were not shown as such, but were included under the caption "Accounts payable" and were, therefore, deducted, in arriving at the average investment shown in Exhibits A-77 and A-79. That is, he deducted them from the rate base from 1916 to 1925, but not from 1925 to 1932.

The next column "Total adjustments" represents a total of the adjustments which have previously been described, beginning with Excess Cash and ending with Working Reserves. That is just a total of the preceding column of figures.

The column "Average investment before depreciation per Exhibits A-77 and A-79 adjusted," represents the average investment shown in those two exhibits after the deduction of the column "Total adjustments." That is, it just gives effect to the adjustments.

4430 The column "Reserve for depreciation" represents the average reserve for the depreciation of plant, giving effect to the exclusion of extraordinary and excessive depreciation, the details of which are given in a later exhibit, X-50, entitled "Reconciliation of Net Profits per Exhibits A-77, A-79, and Exhibits A-77 and A-79 combined, with Profits as Adjusted—Bell and Non-Bell business." That is, I will show later that the expenses of the Western Electric as shown by Mr. Gregory were adjusted, and I give effect here to the rate base resulting from that adjustment.

The column headed "Average investment after depreciation" is the average investment per Exhibits A-77 and A-79, after deduction of the column "Total adjustments" and the column "Reserve for depreciation."

4431 The differences between Mr. Gregory's method used in deducting depreciation reserve in A-194 and in X-49-A, entitled "Earnings of Western Electric Company on Non-Bell business expressed in percentages of Sales and in percentage of (a) Average Investment, and (b) Average Investment less amount of Depreciation Reserve Account 1916-1932, Inclusive," and the method used in Exhibit X-49 are, first, Mr. Gregory deducted the depreciation reserve shown

by the books, which included the extraordinary depreciation set up in the years 1924, 1925, 1926, 1927 and 1928.

Exhibit X-49 has a smaller depreciation reserve because of the exclusion of this so-called extraordinary depreciation.

4432 The second difference is that in compiling his average reserve for depreciation, Mr. Gregory used the opening and closing figures for each year, that is, December 31st figures, divided by two.

In Exhibit X-49, in the earlier years, the opening and closing figures were used because there were no other figures available; but in the later years, where monthly averages were available, we used the monthly figures to arrive at a more accurate figure.

I do not believe that the variance between the two figures, that is, Mr. Gregory's, and those shown in X-49, would be very significant.

The third difference is a method of allocation between Bell and non-Bell. Mr. Gregory used a detail method, involving a knowledge of the amount of depreciation reserve which was allocable to a particular class of plant used in Bell and non-Bell business.

At the time that we made our examination of the records, we did not find, nor was any data made available to us, whereby we could distribute the depreciation reserve as between various classes of equipment, or as between Bell and non-Bell.

4433 For that reason, we distributed the depreciation reserve on the basis of allocation of plant which has been used by Mr. Gregory in preparing the investment figures building up Exhibits A-77 and A-79.

Exhibits A-194 and X-49-A, were delivered to me after my computations were all made up that entered into X-49, and the explanations were given by the Western Electric as to the method in A-194 and X-49-A, at or about the time when they delivered those documents. I don't think the difference caused by the allocation method used by Mr. Gregory relating to this factor of allocating the plant would materially affect the result. I think the only real difference between Mr. Gregory's figures and the figures in Exhibit X-49 would result from the exclusion of the extraordinary depreciation reserve.

Page 2 of Exhibit X-49 is similar to page 1, except that it

relates to Bell business only, as shown in Exhibit A-77.
4434 That is, page 2 allocates to the Bell business the portion of the adjustments, the total of which is contained on page 17.

Page 3 allocates to the non-Bell business the portion of the adjustments, the combination of which, Bell and non-Bell, is shown on page 17, and shows on pages 2 and 3 the effect of the rate base in each case for Bell business and non-Bell business.

The allocation between Bell and non-Bell on pages 2 and 3 of X-49, we made in this manner: The cash and payables were apportioned between Bell and non-Bell on the same basis as the cash and payables were apportioned by Mr. Gregory in arriving at the investments shown in Plaintiff's Exhibits A-77 and A-79.

When I said that the cash and payables were apportioned, I meant the excess cash.

4435 The reserve for depreciation was apportioned on the basis of the plant which was allocated to Bell and non-Bell by Mr. Gregory in connection with Exhibits A-77 and A-79. For this purpose I adopted his apportionment of the assets, as a basis for apportioning the reserve.

Exhibit X-50, entitled "Reconciliation of net profits per Exhibits A-77 and A-79 with profits as adjusted—Bell
4436 and non-Bell business," on page 1, and page 2, "Net profits per Exhibit A-77 as adjusted—Bell business," page 3, "Reconciliation of net profits per Exhibit A-79—non-Bell business with profits as adjusted," shows a reconciliation. This exhibit of three pages was compiled by me, under my supervision.

Page 1 applies to the Bell and non-Bell companies combined.

Page 2 applies to the Bell business only, and page 3 to the non-Bell business.

4437 On page 1, column 1, "Net profits per Exhibits A-77 and A-79" corresponds to the similar column in X-48. The next column, headed "Pension Fund Accruals" represents the adjustment of profits by reason of substituting for the pension appropriations charged on the books of the company, the pension requirements as shown by an actuarial computation furnished us by the Western Electric Company, and

now identified as Exhibit D-26.

Mr. Gregory's Exhibits A 77 and A-79 included in the years 1925 to 1929, charged as operating expenses, not only the current requirements for the pension fund as shown by the actuarial study, but also amounts to make up deficiencies of prior years.

In Exhibit X 50, the charges for pension fund have been reapportioned to charge the operations of each year with the amount of pension fund shown to be required by the actuarial studies. In making this adjustment, the full amount of the
actuarial requirements for the fifteen-year period was
4438 used, which is in excess of the amounts charged on the
books, and in excess of the amounts used in the compilation of profits shown in Exhibits A-77 and A-79. The amount which is charged as an operating expense during the fifteen-year period exceeds the amount which Mr. Gregory charged for the same period in Exhibits A-77 and A-79, in the amount of $359,000.

What I did there was to take the figures as I found them in the actuarial computation, and merely distribute them in the years in which they were supposed to have the deficiency. With reference to the similar item in the case of the eighty-eight companies shown in Exhibit A-85, I found that it was customary to charge to surplus similar adjustments which made up deficiencies of prior years.

In an exhibit to be offered later, X-94, such a provision appears as a surplus charge in the Dupont Company, such surplus adjustments aggregating $8,600,000 made in the year
1926 and in the year 1929. No effect is given in my cal-
4439 culations to the possibility that the pension fund reserve
at December 31, 1930, is excessive in the light of the depression, and that excess could have been used to make up deficiencies which I have charged against the operating earnings of the years prior to 1924.

(Counsel for defendants admits witness does not testify as an actuary. Motion of plaintiff to strike out the statement of the witness just made, on the ground that he has not qualified as an actuary, and therefore cannot express any opinion about it.

Court rules that it may stand as a matter of accounting only.)

4440 The next column headed "Extraordinary Depreciation" represents the depreciation taken by the company in the years 1924, 1925, 1926, 1927 and 1928, as a reserve against probable shrinkage in reproduction value of the plant, predicated on the estimated price level for the ten-year period 1931 to 1940.

4442 In my examination of Exhibits A-77 and A-79, and the working papers underlying Exhibits A-77 and A-79, I did not find any figure, or any calculation, or any fact therein which showed that there was any shrinkage in 4443 book value used by Mr. Gregory as a rate-base below the book cost during the period subsequent to 1924, 1925 and 1926.

4445 (Defendants' Exhibit D-27 furnished to defendant by plaintiff offered and received in evidence.)

4446 In my examination of A-77 and my examination of A-79, or in the examination of any of the records, or in the examination of the working papers underlying A-77 or A-79 I did not find in A-79 any computation, or any figure which showed that Mr. Gregory used as his rate base a figure for the plant or the equipment, any figure below book cost, in computing his rate of return. Among the eighty-eight companies which are shown in A-85, Mr. Gregory's exhibit, I found that charges similar to this reserve were made as adjustments against surplus rather than against current operation. That will be shown in Exhibit X-94 later.

4447 I did not distribute the two million dollar deduction, for the period over the years 1924 to 1927. I did not 4448 distribute it for the reason that in the years 1924 to 1927 the company used a rate of seven and one-half per cent as depreciation on its machinery, in conformity with the general practice of manufacturing companies, as shown in the case of the eighty-eight companies, as will be shown on an exhibit to be offered later, X-93.

"Q. As a basis of comparison with those companies, will you state whether the Western Electric made a claim to the Internal Revenue Department for deduction of this two million dollars, as an operating expense, either in the year '27, or in the year '28?"

(Objection by plaintiff on the ground that the question of what claim may or may not have been made by the

Western Electric to the Department of Internal Revenue, in connection with depreciation can have no bearing upon the actual facts of depreciation existing in the plant.

4449 Counsel for defendants stated that the question was limited to the sole purpose of comparing this company's practice with those of the eighty-eight companies, which show that they do follow the rules of the Internal Revenue Department. Objection overruled.)

The company did not make such a claim. The next column "Excessive Depreciation" represents the adjustment resulting from spreading the charges for small tools, and furniture and fixtures over a four and six-year life, instead of charging off the entire purchase in the years in which made, as is the practice of the Western Electric Company. The adjustment which has been made in Exhibit X-50 conforms to the amounts of depreciation allowed by the Internal Revenue Department.

(Counsel for defendants states that the above statement will stand for the sole purpose of the comparison, and nothing else.)

4452 The column "Federal Income Taxes" represents the adjustments to profits by reason of allocating the Federal Taxes paid to the years to which they apply, rather than to the years to which the charges were made.

The next column "Total Adjustment" represents the total of adjustments as they have been previously described. The next column "Profits as adjusted before interest deductions" represents profits per Exhibits A-77 and A-79 adjusted by the amount appearing in the column "Total adjustments."

The next column, "Interest to current obligations"

4453 represents the amount of interest paid which is applicable to current liabilities. This was deducted from profits, for the reason that the current liabilities were deducted in arriving at the average investment. By so doing, I reduced the profit shown by Mr. Gregory to the extent of this interest.

The next column "Interest on excessive cash balances" represents an adjustment to exclude from profits the estimated amount earned on the excessive cash balances which were excluded from the average investment in Exhibit X-49. To that extent, I reduced net profits available for return, as shown by Mr. Gregory.

The next column, "Profits as adjusted," represents the final adjusted profits after deduction of interest on current obligations and excessive cash balances. Page 2 is similar to page 1, except that it applies to A-77, Bell business.
4454 The same explanations apply to the deductions on this sheet as to page 1.

Page 3 is similar to X-50, page 1, except it applies to Exhibit A-79, non-Bell business. The explanations given for page 1 are equally applicable to page 3. In allocating the adjustments between Bell and non-Bell business, I followed as closely as possible the basis of allocation used by the company in preparing Exhibits A-77 and A-79, so as to give effect to the factors of adjustment alone, without taking into account the propriety of the method of allocation used. That is, I am just making the allocation to give effect to the
4455 particular adjustments shown in X-50. Exhibit X-51, page 1, is entitled "Return on average investment per Exhibits A-77 and A-79 adjusted to exclude excessive cash, current liabilities and reserve for pension fund—Bell and non-Bell business." Page 2 covers the same thing, entitled "Return on Average Investment per Exhibit A-77 Adjusted (before Depreciation) Bell Business (Dollars in Thousands)," only limited to Bell business; and page 3, entitled "Average Investment, Net Profits and Percentage of Return on Investment—non-Bell Business," limited to the non-Bell business. Exhibit X-51 makes the adjustment in the investment only and not in the net profits.

Page 1 shows for the Bell and non-Bell business combined, the rate of return on the average investment as adjusted before depreciation. Page 2 is the same thing for the Bell business and page 3 for the non-Bell business. The column entitled "Average investment adjusted before depreciation" conforms to the third to last column headed similarly shown in Exhibit X-49.

The column "Net profits" in X-51 conforms to the figures given in A-77 and A-79, and the combination of the two
4456 shown in X-48. The last column, headed, "Percent return on average investment," page 1, shows combined Bell and non-Bell, page 2, Bell, and page 3, non-Bell.

Exhibit X-52, consisting of three pages, entitled "Return on Average Investment per Exhibits A-77, A-79, and Exhibits

A-77 and A-79 combined, as Adjusted (after Deducting Depreciation) Bell and non-Bell Business," is identical to X-51, with the single exception that it makes a further adjustment by the deduction of depreciation reserve. For the purpose of X-52 I again only show adjustments on the rate base, but not in the adjustments in the net profits, as shown in Exhibits A-77 and A-79, and pages 1, 2 and 3 which represent the result of the combined business, and the non-Bell business and the Bell business, respectively.

Exhibit X-53 consists of three pages, entitled "Average Investment per Exhibits A-77, A-79, and Exhibits A-77 and A-79 combined, Profits as Adjusted and Percentage of Return—Bell and non-Bell Business," and in column 2 on each of the sheets it is intended to reflect the effect of the adjustment to profits shown in X-50, but not to show any effect on the adjustments of assets.

Page 1 shows the return on investment in Bell and non-Bell business combined, and page 2, the return on in-
4457 vestment in Bell business, and page 3 the return on investment in non-Bell business. The column "Average investment" is in conformity with the figures given in Plaintiff's Exhibits A-77 and A-79 for the Bell business and the non-Bell business separately and combined in X-48, as there shown.

In X-53 I adopt the average investment compiled by Mr. Gregory so as to reflect the effect only of adjustment to profit shown in X-50. The column "Profits as adjusted" corresponds to the column headed "Profits as adjusted before interest deductions" shown in Exhibit X-50. The last
4458 column, then, shows "Percentage of return on Investment," giving effect to the adjustments of profits only.

Exhibit X-54, entitled "Average Investment per Exhibits A-77, A-79, and Exhibits A-77 and A-79 combined, Adjusted (before Depreciation), Profits as Adjusted and Percentage of Return—Bell and non-Bell Business," consisting of three pages, shows the effect of the two adjustments, one, in the investment, as shown in X-49, and two, the adjustment in profits as shown on X-50, only using the rate base before depreciation deduction.

Page 1 shows the return on investment in Bell business and non-Bell business combined; page 2, the return on investment,

Bell business; and page 3, the return on investment in non-Bell business.

The column "Average investment adjusted before depreciation" conforms to the column similarly headed in Exhibit X-49, and the column "Profits adjusted" corresponds
4459 to the similar column shown on Exhibit X-50, and the final column shows the percentage of return, on the basis of the two classes of adjustments, one to profit, and one to the rate base before depreciation.

Exhibit X-55, entitled "Average Investment per Exhibits A-77, A-79, and Exhibits A-77 and A-79 combined, Adjusted (after Depreciation), Profits as Adjusted and Percentage of Return—Bell and non-Bell business," is identical with X-54, excepting that it gives effect to the deduction of the depreciation reserve from the adjusted rate base. It shows, from the Bell business, the return on investment from 1923 to 1930 to be as follows:

1923, 4.4 per cent; 1924, 10.3 per cent; 1925, 17 per cent; 1926, 15.6 per cent; 1927, 19.6 per cent; 1928, 20.3 per cent; 1929, 17.2 per cent; 1930, 6.2 per cent.

For the non-Bell business for corresponding years, it shows for 1923, 25.1 per cent; 1924, 18.6 per cent; 1925, 5.8 per
4460 cent; 1926, 28.3 per cent; 1927, 22.1 per cent; 1928, 32.7 per cent; 1929, 44.3 per cent; 1930, 10.4 per cent.

For the combined Bell and non-Bell business for the same years, it shows for 1923, 6.3 per cent; 1924, 11.1 per cent; 1925, 15.7 per cent; 1926, 16.4 per cent; 1927, 19.7 per cent; 1928, 21.3 per cent; 1929, 20.4 per cent; 1930, 6.5 per cent.

Exhibit X-56, entitled "Average Investment per Exhibits A-77, A-79, and Exhibits A-77 and A-79 combined, Net Profit (Adjusted in Respect of Pension Accruals) and Percentage of Return—Bell and non-Bell business," consists of three pages and shows the effect on the combined Bell and non-Bell return, and on the Bell and non-Bell return separately of the one adjustment to net profits for pension fund accruals.

Page 1 shows the return on investment of Bell and non-Bell business combined with that adjustment; page 2, the return on average Bell business; page 3, the return on the average investment in the non-Bell business, on the basis of that one adjustment to Mr. Gregory's figures.

4461 Exhibit X-57, entitled "Average Investment per Exhibits A-77, A-79, and Exhibits A-77 and A-79 combined,

Adjusted (before Depreciation), Profits (Adjusted in Respect of Pension Accruals), and Percentage of Return—Bell and non-Bell Business," is identical with X-56, excepting that it shows the effect of the adjustment for pension fund accruals applied to the adjusted rate base, per X-49, before depreciation.

Exhibit X-58, entitled "Average Investment per Exhibits A-77, A-79, and Exhibits A-77 and A-79 combined, Adjusted (after Depreciation), Profits (Adjusted in Respect of Pension Accruals) and Percentage of Return—Bell and non-Bell business," is identical with X-57, excepting only that it contains the additional depreciation reserve deduction. In other words, in X-58, I show the effect of making the one adjustment of pension fund accruals on the basis of the adjusted rate base, as I have heretofore computed it, after deducting the depreciation reserve, page 1, for the combined business; and then, pages 2 and 3, for the Bell and non-Bell business separately.

Exhibit X-59, consisting of three pages, entitled "Average Investment per Exhibits A-77, A-79, and Exhibits A-77 and A-79 combined, Profits (Adjusted in Respect of Extraordinary and Excessive Depreciation) and Percentage of Return—Bell and non-Bell Business," shows the effect on the combined Bell and non-Bell investment, and on the Bell and non-Bell investment separately, of the adjustment to profits for extraordinary and excessive depreciation, as shown in X-50.

Exhibit X-60, consisting of three pages, entitled
4462 "Average Investment per Exhibits A-77, A-79, and Exhibits A-77 and A-79 combined, Adjusted (before Depreciation), Profits (Adjusted in Respect of Extraordinary and Excessive Depreciation) and Percentage of Return—Bell and non-Bell Business," is identical with X-59, excepting only that it gives effect to the adjusted average investment before depreciation, as shown in Exhibit X-49.

Exhibit X-61, entitled "Average Investment per Exhibits A-77, A-79, and Exhibits A-77 and A-79 combined, Adjusted (after Depreciation), Profits (Adjusted in Respect of Extraordinary and Excessive Depreciation) and Percentage of Return—Bell and non-Bell business," is identical with X-60, excepting that it gives effect to the adjusted average investment after deducting the depreciation in Exhibit X-49.

Exhibit X-62, entitled "Average Investment per Exhibits A-77, A-79, and Exhibits A-77 and A-79 combined, Profits (Ad-

justed in Respect of Federal Income Taxes) and Percentage of Return—Bell and non-Bell Business," shows the effect on the combined Bell and non-Bell investment, and also on the separate Bell and non-Bell investment, of the adjustments to profits for Federal income taxes, as shown in X-50.

Exhibit X-63, entitled "Average Investment per Exhibits A-77, A-79, and Exhibits A-77 and A-79 combined, Adjusted (before Depreciation), Profits (Adjusted in Respect of Federal Income Taxes) and Percentage of Return—Bell and non-Bell business," is identical with X-62, except it gives effect to the adjusted average investment before depreciation as shown in Exhibit X-49.

In Exhibit X-64, entitled "Average Investment per Exhibits A-77, A-79; and Exhibits A-77 and A-79 combined, Adjusted (after Depreciation), Profits (Adjusted in Respect of Federal Income Taxes) and Percentage of Return—Bell and non-Bell business," I have the identical computations as in X-63, excepting that it gives effect to the adjusted average investment after depreciation, as shown by Exhibit X-49.

Exhibit X-65, entitled "Western Electric Company, Inc.—Return on Average Investment Per Exhibits A-77 and
4463 A-79, and Exhibits A-77 and A-79 combined, After Deducting Reserve for Depreciation—Bell and non-Bell Business," is identical with X-48, excepting that it gives effect to the single factor of the deduction of depreciation reserve, without giving effect to any other adjustments. It gives no effect to any profit adjustment, but merely to the deduction of the depreciation reserve from the investment, as shown by A-77 and A-79.

Exhibit X-66, entitled "Reconciliation of Net Profits per Books with Taxable Income Shown in Federal Income Tax Returns, for the Years 1916 to 1930," was reproduced from the company records, and is a reconciliation of the profits shown by the books with the profits as reported for Federal income tax purposes.

Exhibit X-67, entitled "Western Electric—Return on Investment in International Western Electric Company, years 1918 to 1925" was prepared by me and under my supervision. Exhibit X-67 shows that from the organization of the International Western Electric Company to the date of the sale
4464 of that company to the International Telephone & Telegraph Company, that the Western Electric earned an average on its investment of 37.2 per cent per year. That in-

cludes the profit on the sale to the International Telephone & Telegraph Company. I included all of that profit, and allocated it to the period, 1918 to 1925.

I allocated it to the period 1918 to 1925 for the reason that
the annual reports of the Western Electric Company
4465 for the years prior to 1920, show that the foreign busi-
ness of the Western Electric practically ceased during the War, and that the business was operated in the years immediately preceding 1918 at a loss, and that there were large losses in the investment itself, due to wartime conditions.

This exhibit does not take into account the question as to whether any portion of the purchase price was given as consideration for any sales contract.

(June 8, 1932.)

4467 Exhibits X-48 to X-66 concern the profits of the
Western Electric Company on its sales to the Electrical Research Products, to Graybar, to the Northern Electric,
and to the International Western Electric Company
4468 where sales were made to them, and they do not in-
clude any profits of the Electrical Research Products, or Graybar, or the Northern Electric, or the International Western Electric Company, to their customers.

(Defendants' Exhibit X-68, entitled "Agreement between the Western Electric Company, Inc., and the International Telephone & Telegraph Corporation, and the International Western Electric Company, Inc., dated August 14, 1925," and Exhibit X-68-A, entitled "Agreement between Western Electric Company, and International Western Electric Company, dated October 1, 1925," offered and received in evidence.)

4469 Defendants' Exhibit X-69, entitled "Western Elec-
tric—Investment in International Western Electric, Years 1918-1925," is taken from the books of the company, and shows the ratio of earnings of the International Western Electric Company to the Western Electric Company investment in the business. The per cent return for the period 1918 to 1925 is 18.6 per cent.

The difference between this exhibit and Exhibit X-67 is that X-69 includes all of the earnings of the International Western Electric, whereas X-67 includes only that portion of the earnings declared as dividends to the parent company, plus the profit made by the parent company on the sale of

the International Western Electric Company to the International Telephone & Telegraph Company.

Exhibit X-70, entitled "Western Electric—Investment in International Western Electric Company, Inc., giving effect to accumulated earnings, years 1918-1925," shows the
4470 return on investment of the Western Electric Company in the International Western Electric Company, giving effect to the earnings not declared as dividends. It shows that for the period 1918 to 1925, the return on the average capital stock and surplus combined was 13.2 per cent. This exhibit does not include the profit on the sale to the International Telephone & Telegraph Company.

Exhibit X-71, entitled "Western Electric—Supply Department, 1916 to 1925," was taken from reports and data furnished to us by the Western Electric Company. It shows the return on the Supply Department, treated as a separate department. The investment shown in the first column is built up according to reports on the same basis as the average investment as shown in Plaintiff's Exhibits A-77 and A-79. That is before deducting depreciation reserve and after deducting that portion of current liabilities that was used in determining the average investment as shown in A-77 and A-79.

Exhibit X-72, entitled "Western Electric—Return on
4471 Investment in Graybar Electric Company, Inc., Years 1926 to 1928, Inclusive," was taken from the company's records and represents the return on investment, computed on two bases. The first computation shows the return on investment based on the original investment as carried on the books of the Western Electric Company, and shows a return of 27.53 per cent for the three-year period 1926 to 1928, inclusive.

The second computation shows that giving effect to the surplus earnings of the Graybar Electric Company, the return is an average of 23.58 per cent for the same three-year period.

Exhibit X-73, entitled "Graybar Electric Company, Comparative Statement of Sales and Profits on Western Electric Manufactures and on Other Products," is a comparative statement of sales and profits on Western Electric manufactures and on other products. The sales and profits on Western Electric manufactures are taken from Exhibit D-49.

The sales and profits on other products represent the difference between the sales and profits shown on Exhibit
4472 D-49, and the total sales and profits as shown by annual reports of the Graybar Electric Company.

This exhibit shows that the sales of Western Electric manufactured articles constituted approximately 15 per cent of the sales for the years 1926, 1927 and 1928 combined; and that the profits derived from Western Electric manufactures contributed approximately 60 per cent of the net profits for the same period.

Taking the two years 1926 and 1927, combined, the sales of the Western Electric manufactures constituted approximately 16 per cent of the total, while the net profits derived from Western Electric sales constituted 75 per cent of the total profits for the two years, 1926 and 1927. For the year 1926, the sales of Western Electric manufactures constituted approximately 16 per cent of sales, while the Western Electric manufactures contributed 98 per cent of the net profits.

Exhibit X-74 is a copy of the stock certificate of the Graybar Electric Company, and was furnished by the plaintiff.

There were 60,000 shares of stock of the character de-
4473 scribed in Exhibit X-74 received by the Western Electric Company at the time of its sales to the Graybar Management Corporation.

(Defendants' Exhibit X-74-A, entitled "Agreement between Electric Research Products, Inc., and the Graybar Management Corporation and Graybar Electric Company, Inc., dated November 5, 1928," covering changes in capital structure and sale of common stock, offered and received in evidence.)

4474 On the back of this stock certificate identified as Exhibit X-74, appears an agreement by which the Western Electric Company is entitled to participate in the earnings of the Graybar Electric Company, beginning with 1929, in the proportion of 1 per cent of the net earnings as defined in the agreement for each 1,000 shares of stock held by the Western Electric Company.

In other words, in 1929, the Western Electric Company would get in addition to its 7 per cent preferred stock dividend, 60 per cent of the net earnings of the Graybar Company, over and above that, provided there were no retirements during the year.

Exhibit X-75, entitled "Graybar Electric Company, Inc.—Additional Dividends on Preferred Stock received by Subsidiaries of the Western Electric Company for the years 1929 through 1931," shows that in the year 1929, the West-
4475 ern Electric Company received from the earnings of the Graybar Company, $1,105,000; in the year 1930, $318,895. And subject to correction, in the year 1931, $11,367, a total for the three-year period of $1,412,528. These earnings are in addition to these $7 per share on the preferred stock.

Exhibit X-75-A, entitled "Western Electric—Sales to Graybar Electric Company," was furnished by the Western Electric Company through Mr. Bracelen to us, and shows sales by the Western Electric to the Graybar Company during the years 1929, 1930 and 1931.

"Mr. Goldstein: At this point I would like to read into the record the correspondence that has transpired between Mr. Bracelen and myself with reference to the sales of the Graybar Company, the refusal to divulge certain information.

Mr. Thompson: Just what is the purpose of this?

Mr. Goldstein: The purpose of this is to show that the Western Electric Company has refused to furnish us a statement showing the sales of Western Electric manufactures by the Graybar Company, 1929, 1930 and 1931. We want the record to show the refusal—

4476 Mr. Thompson: Of course—

Mr. Goldstein: —by Mr. Bracelen.

Mr. Thompson: —the Western Electric Company does not own Graybar.

Mr. Goldstein: No, but under this agreement—

Mr. Thompson: And he is just—

Mr. Goldstein (Continuing): —but under this agreement, the Graybar Company employes have the option to turn back the stock and get their money back, even in case of bankruptcy, and the Western Electric Company has the right to take back the stock; and it is just, in our opinion, a sham.

Judge Wilkerson: What is the evidence? You say you called upon some one, you called upon Mr. Bracelen to furnish—

Mr. Goldstein: Yes, and I just wanted to show that we

called on Mr. Bracelen—on the plaintiff, to make available for inspection the total sales of the Graybar Company, grouped by the following classes: Sales by the Western Electric to Graybar in 1929, 1930 and 1931, divided into special commercial products; Western Electric manufactures, telephone appliances, lead-covered cable and supplies; and also to make available for inspection the profit and
4477 loss statement of Graybar, and the statement showing how the additional dividend shown in Exhibit X-75, the refund, was arrived at in each year; to which we have a reply from Mr. Bracelen:

'In view of the fact that the Western Electric Company has not owned the Graybar Electric Company during the period inquired about, I decline to furnish the information requested under sub-division D and E'—those being our requests,

'—in your letter; except that you have already been supplied with full information as to how the additional dividend from the Graybar Electric Company to the Western Electric Company was arrived at during this period.'

I want to introduce that letter in evidence.

Judge Wilkerson: You may put in the correspondence, but I think the observation should be made that the process of this court is open to you, if you want any evidence produced, under subpoena.

Mr. Goldstein: Yes.

Mr. Thompson: Well, now—

4478 Judge Wilkerson: I do not know that we will get very far in this, by putting in correspondence of that kind.

Mr. Goldstein: All right.

Judge Wilkerson (Continuing): Because if you are going to make any point on the decision of the court here about it, it is your duty to subpoena your witness.

Mr. Goldstein: No, we are just going to make the point that they have not made a full disclosure.

Judge Wilkerson: But that does not make any progress with the court.

Mr. Goldstein: All right.

Judge Wilkerson: If you want any evidence produced, you may apply to the court for a subpoena, and the court will give you a subpoena, and will bring the witness in here,

and if it is material, we will get the evidence in the record.

Mr. Goldstein: All right.

Judge Wilkerson: And we will not have this case go off on some correspondence between lawyers about making certain documents available for inspection. Now, this case is not going off on that.

Mr. Goldstein: Well, then, we will ask—

4479 Judge Wilkerson: Well, make your application—

Mr. Goldstein: —that they produce it.

Judge Wilkerson: —in the proper way.

Mr. Goldstein: All right.

Judge Wilkerson: And you will get your subpoena.

Mr. Goldstein: All right.

Mr. Thompson: Your Honor, I do not want to interrupt, except to say that Mr. Goldstein has read one paragraph of this letter. He failed to read a paragraph in which he said that we would furnish to him—

Mr. Goldstein: And you did furnish it.

Mr. Thompson: Yes, and we did furnish to him—

Mr. Goldstein: Yes

Mr. Thompson: Note!—'The sales of Western Electric to Graybar in 1929, 1930 and 1931 divided into the following classifications: Telephone apparatus including special commercial products, lead-covered cable and supplies.'

And I would like to explain—if these letters are to go in, I want to explain that Graybar does not keep its sales in the classifications that Mr. Goldstein has asked for, and he has also asked us to furnish a profit and loss statement for three years of the company which we do not own or control.

4480 Mr. Goldstein: But which you—

Judge Wilkerson: The point I am making is this—

Mr. Goldstein: Pardon me.

Judge Wilkerson (Continuing): —that when this record is closed, the trial has lasted too long, and there has been too much time taken up here, to have this case go off on a question of the refusal to make available certain things for inspection. That is not the way to get at it.

Now, I am giving you timely notice of that fact.

Mr. Goldstein: All right.

Mr. Thompson: And I make the suggestion—

Judge Wilkerson (Continuing): And if you expect to

invite the decision of the court on any matter of that kind, I say if you expect to ask for a dismissal of this bill on any such ground as that—

Mr. Goldstein: No—

Judge Wilkerson: —you will have to go at it in a different way.

Mr. Goldstein: Certainly.

Mr. Thompson: I say that the statement made on the record is not a fair statement of the facts as they
4481 really exist.

Judge Wilkerson: Well—

Mr. Goldstein: We will put in the correspondence, which will show the facts.

Judge Wilkerson: I do not know what use the defendants intend to make of it, but if it is intended—if this use is intended to be made of it, namely, that the court will not proceed to a decree here because of the refusal of counsel for complainant to furnish or make available for inspection certain documents, I am inclined to think that the view of the court will be that timely notice having been given to counsel to fortify their record in an appropriate way, namely, by subpoena addressed to the witness, and during the attendance of the witness in open court, an offer to prove under the Equity Rule, in accordance with the Equity Rule; and the ruling of the court then, after those matters are before the court, will be made. But you cannot just simply have correspondence in here, and then when we get to the end of the record, say, 'Oh, well, you cannot decide this case because they did not make certain things available to us for inspection,' or if the decree might be
4482 for the plaintiff, say, 'It might be reversed because they did not make certain things available to us for inspection.'

Now, I am giving you timely notice of the Equity Rule in this respect, and of the correct procedure.

Mr. Goldstein: We understood—

Mr. Haight: May I suggest, however, that the suggestion of the court of course will not bar the defendants from taking the position that the things that we may have asked for, that point out the existence of materials helpful in making a determination here, may be called to the attention of the court as constituting deficiencies in the plaintiff's case; cer-

tainly, that is always open to us in any case where we ask for things and do not get them.

Judge Wilkerson: Oh, if they have omitted to prove something—

Mr. Goldstein: Yes.

Judge Wilkerson: —that is essential in this case—

Mr. Goldstein: That is our position.

Judge Wilkerson: —of course, they have failed, that is all.

4483 Mr. Thompson: We do not need any letters, to make that point.

Judge Wilkerson: I think we understand each other.

Mr. Bracelen: I wish to make on observation on the record. We do not attach much importance to the accusations by Mr. Goldstein that things are sham. He said a moment ago that his position is that this arrangement by which the Graybar was sold, is sham. If he thinks he can show anything of that kind to the court, let him proceed. His gratuitous accusation of that kind does not go very far.

Mr. Goldstein: No, but if you will read—

Mr. Bracelen (Continuing): Towards establishing anything.

Mr. Goldstein: But if you will read Mr. Gregory's testimony, and then view that in the light of a million dollars additional profit, where he said they made no profit on the sale, and if you will look at the testimony as to whether or not this was an absolute sale, in view of this agreement which we were only handed the day before yesterday, which discloses that even in the case of bankruptcy the Western Electric has the return of the money, and that all of the 4484 employes could get would be their money plus 6 per cent interest, it throws an entirely different light on the relationship between the Western Electric Company and the Graybar.

Judge Wilkerson: Well, now—

Mr. Thompson: That whole statement is so inaccurate—

Judge Wilkerson: —just where does that lead ultimately—

Mr. Thompson: Yes.

Judge Wilkerson: —in a rate case?

Mr. Goldstein: It just leads to this, that when they made a franchise agreement to the Graybar Company on Novem-

ber 1, 1928, which was four days before the sale, and as that agreement calls for the franchise to the Graybar Company, to sell the merchandise of the Western Electric Company, as a distributor upon the basis of the prices which were established between the Western Electric Company and the Graybar, under this sort of an arrangement, it is our contention that this special agreement which is contained on the back of the stock certificate is an agreement for stock participation in earnings and profits, because of the fran-
4485 chise for the use of these patented articles, these commercial agreements, not part of the sale, and that when you look at the profits of the Western Electric Company on the sale of its merchandise, you should not stop at the transfer to the Graybar Company, but you should look at the profits of the Graybar Company on those sales as really being the full profits of the Western Electric Company to the extent that it participates.

Now, that is our position. They have set up barriers, and they have said in this court, 'When you look at the profits of the Western Electric Company, you must stop at the International Western Electric line; you must stop at the Graybar line.'

Why? These are separate things, in theory of law. We say irrespective of that legal barrier, in truth you have made a sale to yourselves, and when you consider profit, and when you consider the propriety of these adjustments, and the allocations, you cannot adjust them on the basis of the Western Electric Company as a separate entity. And, therefore, you should do with the Western Electric Company and
4486 its subsidiaries just what you are doing with the Illinois Bell and the Bell System; you have got to use it as one unit, consider it as one unit.

Judge Wilkerson: Now, you say you want something produced from the Graybar.

Mr. Goldstein: We want produced from the Graybar—

Judge Wilkerson: Now, let us see. Who owns the Graybar now?

Mr. Thompson: Its employes.

Mr. Goldstein: But let me—

Judge Wilkerson: We are speaking now of the power to produce.

Mr. Goldstein: The Western Electric—

Judge Wilkerson: Who has the power now? I am assuming now that the books of the Graybar are in the custody of Graybar.

Mr. Goldstein: Yes.

Mr. Thompson: Right.

Judge Wilkerson: Who has the—

Mr. Goldstein: And may I say—

Judge Wilkerson: Who has the power to produce the books?

Mr. Goldstein: May I say this: under the agreement between the Electrical Research Products and the Gray-
4487 bar Management Corporation, Electrical Research Products, and through it, the Western Electric can make audits of the Graybar Company, and the profit-sharing which we have shown in X-75, 60 per cent of profit in 1929 and the 55 per cent in 1930, are based upon profit and loss statements, and all that we ask is to see those statements upon which they arrived at those dollars.

That is what we ask for.

Judge Wilkerson: Now, assuming that you want the court to make an order on somebody to produce the books of the Graybar Company, upon whom would the court make the order?

Mr. Goldstein: We would ask for an order to have the Western Electric or its subsidiaries produce the statements upon which they received—which they received, and upon which they have the profit calculations.

Mr. Thompson: Your Honor, may I just make this one observation? When this case went to the United States Supreme Court there was a showing as to the Western Electric profits on its total business, and the court said that that was not a sufficient showing because the inquiry that was to be made was, what profit it had made on its Bell busi-
ness.

4488 Now, the Graybar Electric Company has never done one dollar of business with the Bell Associated Companies. It is non-Bell.

Now, what Mr. Goldstein stands here and tells your Honor is that notwithstanding the decision of the Supreme Court, he wants to put all of the Bell and non-Bell into the pot.

Mr. Goldstein: No.

Mr. Thompson: Now—

Mr. Goldstein: That is not it.

Mr. Thompson (Continuing): He cannot claim for a minute that the Graybar Electric Company has ever done one dollar of business with the Bell Associated Companies during the term of its existence.

Mr. Goldstein: But we do claim—

Mr. Thompson: Now, he claims that they should all be joined together.

Mr. Goldstein: Oh, no, but we do claim that the Graybar Company purchased from the Western Electric the same kind of merchandise that was purchased from the Bell System—by the Bell System, and that the method of proof of the profit of the Western Electric on the Bell business involves an allocation between the Bell and non-Bell; and
4489 second, that the Graybar Company is purchasing the products which are the result of the inventions which this record now discloses under the license contract, the Bell Companies have paid for in full, and we have a right to trace the profits in all directions, from the use of inventions for which the licensee companies have paid in full the expense.

Now, that is the theory upon which we want those profits. They cannot say, 'We are going to make use of those inventions which the Bell System has paid for, and been charged for all of the expenses of,' and then say, 'You have no right to look at the profits.'

That is our position.

Mr. Thompson: Understand, your Honor, that during the entire time that the Western Electric owned the Graybar, Mr. Goldstein has been furnished with those profit and loss statements. He will not deny that.

Mr. Goldstein: No, but we claim that we are just as much entitled to the profits for the years 1928, 1929, 1930 and 1931, when there was this technical sale, because of the fact that the rest of the—

4490 Mr. Thompson: Oh, you have 1928, Mr. Goldstein.

Mr. Goldstein: 1929, 1930 and 1931.

Mr. Thompson: Yes.

Mr. Goldstein (Continuing): Because of the fact that under the agreement of sale—

Judge Wilkerson: Of course, when you say "technical sale"—why do you say "technical"?

Mr. Goldstein: Well, for this reason—

Judge Wilkerson: It was either a sale, or it was not a sale.

Mr. Goldstein: For this reason, that when you have a sale —

Judge Wilkerson: I do not know of any such thing as a technical sale.

Mr. Goldstein: Yes, but when —

Mr. Thompson: It was an absolute sale.

Mr. Goldstein: Yes, but —

Mr. Thompson: The Western has no right to take it back.

Mr. Goldstein: We have introduced the agreement —

Judge Wilkerson: You mean, a colorable sale.

Mr. Goldstein: Well, yes, that is much the better word.

Judge Wilkerson: That is to say, you mean there
4491 was a pretense of sale, when in fact, there was no sale, is that what you are attempting to convey?

Mr. Goldstein: Yes. May I explain it —

Mr. Thompson: We will be very glad to meet that issue.

Mr. Goldstein: Yes.

Judge Wilkerson: That there was a pretense of sale —

Mr. Goldstein: No, not a pretense of sale, but it was a sale under a peculiar arrangement whereby the —

Judge Wilkerson: I may be a little dense on it —

Mr. Goldstein: All right. Here are the facts.

Judge Wilkerson: — but I do not follow you.

Mr. Goldstein: Here is the picture: In 1928, on November 1st, the Western Electric Company through the Electrical Research Products owns all of the stock of the Graybar Company.

Judge Wilkerson: Let us suspend for just a moment.

Mr. Goldstein: Yes, sir.

Judge Wilkerson: We will resume this discussion after the clerk calls the motions.

Mr. Goldstein: Yes, your Honor.

(Following a short intermission, the proceedings were resumed as follows:)

Judge Wilkerson: You may proceed.

4492 Mr. Thompson: Your Honor, I would like to make a short statement about this Graybar situation; there has been so much said about it that I am —

Judge Wilkerson: You want to say some more?

Mr. Thompson: I want to say some more about it, and say

something that I think will be helpful, and say something that will be I think accurate and to the point.

The Western Electric Company had a supply department which dealt in goods of its own manufacture sold to non-Bell customers, and in electrical appliances generally. It desired to segregate that business from the business which it was doing with its Bell customers, so that at the end of 1925 it organized the Graybar Electric Company, and turned over all of the business done by the Supply Department of the Western Electric Company, except something in the foreign field.

That company was operated as a wholly-owned subsidiary of the Western Electric Company for the years 1926, 1927 and 1928. During that period of time it is interesting to note from the exhibit that these gentlemen have put into evidence,

4493 the sales of the Western Electric manufactures were a very small portion of the total sales of Graybar, although the profits on those manufactures were relatively larger than the profits made by Graybar on the general supply business in which it was engaged.

For instance, in 1928, which was the last year in which the Company was run as a Western Electric controlled subsidiary, it sold $62,000,000 worth of general electric supplies, and less than $10,000,000 of Western Electric manufactures.

Now, that was the situation when the Graybar Management Corporation was organized. It was organized, your Honor, because the management of the Western Electric Company wanted to dispose of this business, absolutely. It preferred if it could to dispose of it to employees of the Graybar Electric Company, who had been employees of the Bell System before the Graybar was organized. It was an absolute sale; there were certain conditions attached to it, and there ought to be no difficulty in ascertaining what those conditions are, and there has never been the slightest concealment about the conditions.

4494 Mr. Gregory said here when he testified before that there was participation by the Western Electric Company in Graybar's profits.

Now, here is just an instance, and here is what it makes out of it, your Honor, and this is all it makes. First, its profits out of its sales of Western Electric manufactures to

Graybar; then it has a participating preferred stock. Originally, it owned $6,000,000 of that stock, and now it owns $4,000,000.

This witness has said that it gets 60 per cent of net earnings. That is true, but he failed to define what net earnings are, and they are defined in the contract. Net earnings are after all taxes, payments for Pension Fund and cumulative dividends upon preferred stock, in the sum of $450,000 a year.

Now, here is just one further fact in connection with that, and then I think your Honor will have this entire picture. Up to the end of 1933, until the end of 1933, the employees of Graybar had the right to require the Western Electric to take their stock back. After that they had no right to
4495 require the Western to take it back, and the Western has no option ever to get it back on its own motion.

Now, that is the exact situation. Now, in view of that situation, what is counsel entitled to? He is entitled to know, as I see it, exactly what he has already gotten, your Honor. He has gotten the sales by the Western to Graybar since the Western Electric ceased to own or control Graybar. He has gotten the exact participation in dollars, and his witnesses testified to it, on account of this preferred stock.

Prior to the sale by Graybar, he has had all of the information.

Now, what more can there be in the picture that he is entitled to?

Mr. Goldstein: If the court please, Mr. Thompson forgot to state two facts. One was that when the Western owned all of the stock of the Graybar, there was a commercial agreement, which we will offer as X-76, dated December 31, 1925; which gave Graybar a very limited franchise to sell the products of the Western Electric Company; that as a part of the same transaction by which the Graybar Management Corporation bought the stock, the Western Electric Company
4496 made a new franchise agreement with Graybar which we will offer in evidence as X-77.

Mr. Thompson: Both of which we furnished to you.

Mr. Goldstein: At my request.

Mr. Thompson: Yes.

Mr. Goldstein: Within a very—within the last few days, as to 76—which shows a very broad license contract for all of the products, all of these commercial products about which

this lawsuit has a very, very important issue; the tracing of the profits, the credit to the licensees, from the inventions, from the Development & Research, the expenses of which were charged to the licensees; and that is the first thing that Mr. Thompson forgot to state to the court.

The second thing is, that Mr. Thompson stated that the Western Electric never had the right, the option, to purchase back the stocks. If by his statement he means the Western Electric, technically, it is correct; but the agreement X-74-A shows the Products, the Electrical Research Products, in Section 5, as—I read, I quote:

"Products is hereby granted an option, to continue in force as long as any of the preferred stock of Graybar is out
4497 standing, to repurchase from Management'—that is the management corporation—'all of the outstanding stock of Graybar at a price determined in the same manner as provided in Section 4.'

So that if Mr. Thompson is trying to shield himself on the ground that the Western Electric does not have the option, but the Electrical Research Products, which is wholly-owned, I say that is not a protection; and as to the fact, as to whether the Electrical Research Products had the option, it is contained in the agreement, which we will leave with the court.

Now, we want to bring this picture to the court, that when you have an unusual transaction, such as in this case, where the Western claims that they made a sale of $9,000,000 of assets for $9,000,000 without profit, and where it appears that as a part of the same transaction they are given the assets—they give the purchaser of the assets a franchise to purchase its products as a distributor, upon preferential treatment as to the costs which are involved in these allocations of the Western Electric between Bell and non-
4498 Bell,—and where as a part of a sale you have the purchaser paying not only that $9,000000, not only the 7 per cent on the unpaid balance of the purchase price, but giving the seller the right to participate to the extent of 60 per cent of the profits, after the taxes and after the dividends, and 55 per cent—

Mr. Thompson: And after the $450,000.

Mr. Goldstein: And after the $450,000; but in 1925,—or in 1929, giving them an additional profit of $1,000,000, and in 1930 an additional profit of $318,000. It is an unusual trans-

action, as a part of the sale. They have said that it was not, that the sale did not give them that profit.

The only other reason then for that profit is this franchise, which was given as a part of the sale, about which they have said nothing; and it is that franchise which is involved in this litigation, because it involves the sale of these commercial products.

Judge Wilkerson: All this started, I think, from your offer to read certain correspondence.

Mr. Goldstein: Yes.

4499 Judge Wilkerson: It is in the record.

Mr. Goldstein: Right.

Judge Wilkerson: I have suggested—

Mr. Goldstein: We are satisfied.

Judge Wilkerson: I have suggested to you that where a company is involved, where documents are in the custody of its officers, and that company is before the court, if you want anything produced from the records of that company, then you should get out a subpoena.

Mr. Goldstein: But I have a perfect right—we have a right to have the record show it, as bearing upon their proof, that is all.

Judge Wilkerson: If it is a part of their proof—

Mr. Goldstein: We say it is, and we just want to show the absence of it—

Judge Wilkerson: If it is an essential part of their proof—

Mr. Goldstein: Right.

Judge Wilkerson: And it is something that they are bound to show—

Mr. Goldstein: That is right, and we claim it is.

Judge Wilkerson (continuing): If it is something that, under the 'Peculiar Knowledge' rule—

Mr. Goldstein: Right.

4500 Judge Wilkerson: —it is their duty to show, and they fail to show it, then you are entitled to all of the instances—

Mr. Goldstein: Yes.

Judge Wilkerson: —which flow from that failure to show.

Mr. Goldstein: We want to show we made an attempt to get it, and it was refused us, and that is all.

Judge Wilkerson: You have asked for it.

Mr. Goldstein: Yes.

Judge Wilkerson: You have told them you want it.

Mr. Goldstein: Yes.

Judge Wilkerson: And you think that they should give it to you.

And further than that, you say, 'Well, we will argue the inferences from that, when we come to argue the case.'

Mr. Goldstein: That is correct.'

Mr. Haight: And further, we are telling them, we think it is a part of their case, and to that extent we are trying to aid them.

Judge Wilkerson: You are warning them.

Mr. Thompson: It is very kind, I am sure.

4501 Mr. Haight: And if they will not accept the warning—

Judge Wilkerson: You are warning the plaintiff—

Mr. Haight: Yes.

Judge Wilkerson: —that you will insist, in your argument—

Mr. Haight: Absolutely.

Judge Wilkerson: —that that is an essential part of their case.

Mr. Haight: Yes.

Mr. Goldstein: Right.

Mr. Haight: And if they think that our suggestion of aid is worthless, why, they are taking the chance, if we happen to be right.

Judge Wilkerson: All right. You may go ahead."

(Statement by Mr. Goldstein.

"Exhibit X-76 is entitled 'Commercial Agreement between Western Electric Company, Inc., and Graybar Electric Company, Inc., dated December 31, 1925.'

Exhibit X-77 is entitled 'Distributor Contract between Western Electric Company, Inc., and Graybar Electric Company, Inc., dated October 11, 1928, effective November 21, 1928.'

4502 Exhibit X-74-A is Electrical Research Products, Inc., and Graybar Management Corporation, and Graybar Electric Company, Inc., agreement covering changes in capital structure and sale of common stock of Graybar Electric Company, Inc., dated November 5, 1928.

Exhibit X-78, entitled 'Correspondence between Graybar Electric and Western Electric Company' consists of a letter

dated January 21, 1926, from the Comptroller of the Western Electric Company to F. A. Ketcham, Executive Vice-President, Graybar Electric Company, Inc.; letter dated February 10, 1926, from Mr. L. M. Dunn, Executive Vice-President Graybar Electric Company, to R. H. Gregory, Comptroller, Western Electric Company, Inc.; letter dated January 18, 1927, from R. H. Gregory to F. A. Ketcham, Executive Vice-President, Graybar Electric Company; and letter dated March 4, 1927, from F. A. Ketcham, Executive Vice-President, Graybar Electric Company, to R. H. Gregory, Comptroller.

The above letters, Exhibit X-78, were furnished by the plaintiff, and state the arrangements between the Western Electric Company and the Graybar, regarding compensation to the Western Electric for services rendered during the years covered by these letters.")

The Witness (continuing): Exhibit X-79, entitled "Western Electric—Profits from operations of Electrical Research Products, Inc., and percentage of Return on Western
4503 Electric Company, Inc., investment" shows the profit from operations of Electrical Research Products, Inc., and the percentage of return to the Western Electric on its investment. The figures were taken from the reports furnished, which have been previously identified as D-74 and D-75. X-79 shows the total net profits of the Electrical Research Products as shown by the reports, line 1 of Exhibit X-79.

The line "Profits from Operations" shows net profits after deducting earnings on outside investments and marketable securities, and adding undistributed earnings of foreign subsidiaries.

This exhibit shows that on the average investment of Western Electric in Electrical Research Products, Inc., and excluding the investment in marketable securities, the return was in the year 1927, 93.3 per cent; in 1928, 121.8 per cent; in 1929, 309.4 per cent; and in 1930, 119.4 per cent.

Giving effect to the earnings not declared as dividends, and considering the undistributed earnings, such, undistributed earnings as part of the Western Electric in-
4504 vestment, the return on that basis was in the year 1927, 63.6 per cent; in 1928, 51 per cent; in 1929, 68.1 per cent; and in the year 1930, 18.2 per cent.

In Exhibit X-79 the difference between the two sets of re-

turns, that is the return on the one which is shown on the line which shows 93.3 per cent in 1927, and 121.8 per cent in 1928, and 309.4 per cent in 1929, and 119.4 per cent—that is Western Electric Company investment in Electrical Research Products, not taking into account the undistributed earnings as part of the investment. Then by giving effect to the undistributed earnings as a part of the investment, I show in the last column, in the last line, 63.6 per cent return, 51 per cent, 58.1 per cent, and 18.2 per cent.

Exhibit X 80, entitled "ERPI Copy of Journal Entry No. 150, dated June 30, 1927," consists of two sheets, and was compiled from data furnished to us by the Western
4505 Electric Company, and explains the entries in connection with the transaction referred to in Exhibit D 82.

This exhibit shows that on June 30, 1927, a reserve of $1,000,000 was set up, and that on October 31, 1930, the reserve was credited to "Sundry Income," but reversed on the same date. The exhibit shows the journal entries and cash book entries relating to the $1,000,000 transaction referred to in Exhibit D 82. Of this $1,000,000 the reserve of $1,000000 is still on the books of Electrical Research Products, and to that extent the profits of Electrical Research Products, as shown in X 79, are understated.

Exhibit X 81 is entitled "Western Electric Co., Inc. Return on Investment in Northern Electric Company, Limited" shows the return on investment of the Western Electric in the Northern Electric Company, which are applicable to the Western Electric investment.

4506 Exhibit X-82, entitled "Western Electric Company, Inc.—Percentage of Return on Average Capital Stock and Surplus Allocated to Bell and non Bell average investment based on a 10 per cent return on the average investment in Bell and non-Bell assets" is described as follows:

The first column headed "Average Investment per Plaintiff's Exhibits A-77 and A-79," is taken from those exhibits and shows the combined figure.

Column 2 shows the amount of earnings available for return on the basis of 10 per cent on the return on investment previously described.

Column 3 shows the total amount of capital stock allocated to the Bell and non-Bell business.

Column 4 shows the per cent return on average capital stock allocated to Bell and non Bell business.

Column 5 shows the average capital stock and surplus allocated to Bell and non Bell business. This column differs from the column "Average Capital Stock allocated to Bell and non Bell business," by the inclusion of surplus, which is omitted from the former column.

4507 The last column shows the percentage of return.

Exhibit X-83, entitled "Western Electric, Inc., and Subsidiaries, Consolidated Average Investment, Profits and Percentage of Return," shows the return on investment to the Western Electric Company from its operating earnings and from its non operating earnings on a consolidated basis, using the Company's figures for net profits and for investment.

Exhibit X-83-A, entitled "Western Electric and Subsidiaries Computation of Average Investment, per Touche, Niven & Company," shows the basis of arriving at the average consolidated investment before and after depreciation.

Exhibit X-83-B, entitled "Western Electric and Subsidiaries—Reconciliation of Consolidated Net Profits per company with Consolidated Profits as Adjusted," shows the ad-
4508 justments that I made to consolidated net profits. Those adjustments of rate base and net profits are as shown in X-84.

Exhibit X-84, entitled "Western Electric and Subsidiaries—Consolidated Average Investment, Profits and Percentage of Return," gives effect to the adjustments which I have made. The adjustments in X-83-A and X-83-B are of similar character to those I have described in X-49 and X-50, except as indicated, and except so far as they may involve similar adjustment on subsidiary companies, and therefore need no further description.

Exhibit X-84 is before depreciation, and X-85 is entitled "Western Electric and Subsidiaries—Consolidated Average Investment, Profits and Percentage of Return." X-85 is identical with X-84, except that there is a depreciation reserve deducted.

4509 Exhibit X-86, entitled "Western Electric and Subsidiaries—Consolidated Average Investment, Profits and Percentage of Return," gives effect to profits as adjusted on the Company's rate base.

The profit on the sale of the International Western Electric Company was included to a certain extent in the consolidated profits computed by Mr. Gregory. I have, in Exhibit X 86, added back the portion of International Profits which he allocated, which he did not take up in his consolidated net profit. I am not certain whether that is the portion which was allocated by him to the period prior to 1918. It represents $1,989,000. Then I took up the profit on the sale of the property to the Bell Telephone laboratories, of $2,113,000. This is the only exhibit in which I reflect that profit. Then I took up the net profit of $457,000 on the sale of the Graybar stock. It represents the difference between the profit of $2,300,000 made on the sale, minus the amount of profit which Mr. Gregory already had included in the consolidated net profits of the Company.

4511 Exhibit X 87, entitled "Western Electric and Subsidiaries Consolidated Average Investment, Profits and Percentage of Return" gives effect to the average investment as adjusted before depreciation, shown in Exhibit X 83. The column, "Profits as Adjusted," is in conformity with Exhibit X 83 B. The last column shows the percentage of return.

Exhibit X 88, entitled "Western Electric and Subsidiaries Consolidated Average Investment, Profits and Percentage of Return," is similar to Exhibit X 87 except that it gives effect to the added factor of reserve for depreciation which is deducted in Exhibit X 88. That is, it shows the effect of the net profits as I adjust them in the manner I stated 4512 before on the rate base as I adjusted it, after deducting depreciation reserve.

Exhibit X 88, for the period from 1923 to 1930, shows the following return on investment: 1923, 6 per cent; 1924, 11.3 per cent; 1925, 20.9 per cent; 1926, 14.7 per cent; 1927, 18.5 per cent; 1928, 21 per cent; 1929, 19.1 per cent, and 1930, 8.2 per cent.

Exhibit X 89, entitled "Western Electric Basis of Published Figures of Companies included in Plaintiff's Exhibit A-85 (taken from Poor's Manual)" shows that of the 88 companies included by Mr. Gregory in his Exhibit A-85, practically all of them show, in Poor's, the earnings and assets on a consolidated basis, which includes the parent company as well as the entire operations of the subsidiary companies.

Exhibits A-77 and A-79 include only that portion of total

investment and total earnings of the Western Electric Company itself, that Mr. Gregory allocated to operations,
1513 and do not include either the non operating assets, or the non operating earnings of the Western Electric Company, nor any of the earnings from investments or from profits in the subsidiary companies of the Western Electric Company.

Column 2, Exhibit X-89, shows the companies whose earnings are on a company basis of operating and non operating income, and operating and non operating assets, but not including subsidiary companies.

Exhibit X-90, entitled, "Western Electric. Comparison of Earnings and Rate of Return Computed on Basis Shown in Exhibit A-85, with that Shown in Exhibits A-77 and A-79," shows a comparison between the return on investment on the basis of earnings and investment figures as taken from Poor's Manual, for the Western Electric Company.

1514 Exhibit X-91, entitled, "Western Electric Company Percentage of Return on 'Average net investment' (exclusive of bonded indebtedness) to 'Earnings Available for Dividends,'," taken from Poor's Manual, shows return on capital. It shows the return on capital and surplus based on non operating assets and non operating earnings of the Western Electric Company alone without taking into account any of the subsidiary companies for each of the years from 1915 to 1930, as taken from Poor's Manual without any adjustments of income.

Exhibit X-92, entitled, "Depreciation Policy of Companies, from Poor's 1931 Manual," is taken verbatim from Poor's the depreciation policy, for the 88 companies. It is merely a compilation. It speaks for itself.

Exhibit X-93, entitled, "Western Electric Plaintiff's Exhibit A-85 Depreciation Rates," is a grouping of the depreciation rates used by the various companies on ma-
1515 chinery, furniture, buildings and small tools, indicating those companies, whose rates are in conformity with those approved by the Internal Revenue Department, taken from Poor's.

Exhibit X-94, entitled, "Western Electric—Adjustment to Surplus Accounts Omitted in Computation of Average Annual Earnings of Various Companies, included in Plaintiff's Exhibit A-85 (Debit Adjustments are shown in black; credit

adjustments in red) surplus adjustments of 88 companies, 1931" is a compilation showing the kinds of adjustments to surplus made by 88 companies, of the same character that Mr. Gregory used in connection with his Exhibits A-77 and A-79 as charges to operating earnings. I have found from my examination of each of the 88 companies, in Poor's, additional facts which should be taken into account in any comparison between the Western Electric Company and the 88 companies.

4516 From an examination of some of the companies included among the 88 companies included in Exhibit A-85; I find that seven of the companies carried their inventories at cost. Those companies are: DuPont, Mathiesan Alkali Works; for the years 1926 and subsequent, the Consolidated Cigar Corporation and the Continental Baking Corporation; for the years 1927 to 1930, Liggett & Meyers Tobacco Company, and the Lorillard Company; prior to 1930, the Goodrich Tire & Rubber Company carried its finished and semi-finished products at cost.

I also found that three of the companies had employes' profit-sharing plans. The Dennison Manufacturing Company has management and employes stock, as extra compensation, but does not have a pension fund.

The Endicott-Johnson Corporation has a profit-sharing plan for employes. The National Cash Register Company employes receive the profit-sharing at varying percentages of the earnings after taxes, which was discontinued in 1926, at which time the employes received 37.5 per cent of the common B stock in lieu of the profit-sharing arrangement.

4517 From my examination of the working papers underlying Mr. Gregory's Exhibit A-85, I did not find that any effect was given to this profit-sharing as deductions from operating earnings. I also found that several of the companies were engaged in businesses that are rather far removed from the business of the Western Electric Company. The Columbia Carbon Company owns gas wells, oil wells and pipe lines. There were six companies that owned mines, the Allied Chemical & Dye Corporation, the Glidden Company, the Goodyear Tire & Rubber Company, The International Cement Company, The International Harvester Company and the National Lead Company.

Three companies owned phosphate, sodium and/or limestone deposits, the American Agricultural & Chemical Company, the American Cyanamid Company, and Mathieson Alkali Works.

Three companies own timber lands, the Deere Company, the Diamond Match Company, and the International Harvester Company. Two companies have rubber plantations, the Goodyear Tire & Rubber Company and the B. F. Goodrich Tire & Rubber Company.

4518 This list is not intended to be all inclusive, but is simply a sampling of some of the companies included among the 88. The effect of engaging in mining, in oil, and also in timber operations, would involve the question of depletion of return and reduction of investment in those particular assets.

Exhibit X-95, entitled, "Western Electric—Comparison of per cent of return on investment and per cent of net profit to sales of companies shown in Plaintiff's Exhibits A-85, A-86 and A-87," shows a comparison of percentage of average earnings to average investment, with percentage of net profits to sales on representative companies of the 88 companies. It shows that there is no relation between the two percentages.

Exhibit X-96, entitled, "Western Electric Company,
4519 Inc.—Ratio of sales to average investment for year 1927 (compiled from Poor's Manual)," compares the ratio of sales to average investments of the Western Electric Company for Bell and non-Bell business, and also for Bell and non-Bell combined, showing the ratio of sales to the average investment—with ratio of sales to average investment of those of the 88 companies included in Exhibit A-85, which showed a large percentage, net profits to sales. This exhibit shows that the percentage of net profits to sales has a relation to the rate of turnover, and that the larger the turnover, the less percentage of profit to sales, appears.

Exhibit X-97, entitled, "Western Electric Company, Inc.—Results obtained by apportioning combined plant of two companies (selected from Plaintiff's Exhibit A-85) on basis of the combined sales for the year 1930," shows the effect of apportioning plant on the basis of cost of sales where fast and slow moving items are combined. It shows that an ap-

portionment made of plant on basis of cost of sales will not be in accordance with the use, which is the basis used
4520 in Mr. Gregory's exhibits. Cost of sales will not give you the use of a plant, for the simple reason it involves the question of inventories. In other words, it brings in the question of goods manufactured in the prior year, for sale in subsequent year.

As an illustration you might take an extreme case, goods manufactured in the year 1927 and sold in the year 1928, and we will assume that the goods manufactured in 1927 were of a type that was discontinued at the close of the year 1927, but that the merchandise itself was sold in the year 1928. If you use the apportionment in the manner in which Mr. Gregory has used it, you would be apportioning to those sales in 1928, part of the 1928 plant, which would in no way be related to the plant used in the year 1927; that is, the year in which the goods were manufactured.

4521 Exhibit X-98, entitled, "Western Electric—Collections from Bell Companies—(WE Schedule Reference CM-714)," shows the collections by the Western Electric Company from the Bell Companies, in Column 1, and Column 2 shows the cash taken by the licensee companies from the American Telephone & Telegraph Company, as shown in reports CR-13. The last column shows the ratio of one to the other.

Exhibit X-99, entitled, "A. T. & T. Co.—Investment in Western Electric Co. Common Stock (New York Corporation)," shows the investment by American Telephone & Telegraph Company in the common stock of the Western Electric, and was prepared from data furnished by American Telephone & Telegraph Company.

Exhibit X-100, entitled, "A. T. & T. Co.—Monthly High, Low and Average price of the common stock (per
4522 New York Stock Exchange quotations), 1920-31."

Exhibit X-101, entitled, "Illinois Bell Telephone Company—Sales of Illinois Bell Telephone Company's First and Refunding 5% Bonds—Series A—1956 (New York Stock Exchange) (Taken from 'The Analyst')," shows the year's sales, or resales of the Illinois Bell Telephone Company 1st and Refunding 5 per cent Bonds, Series A, 1956, on the New York Stock Exchange, as taken from the Analyst.

4524 I rquested of the Western Electric Company and was furnished Defendants' Exhibit X-102, entitled, "Analysis of profits on business other than the Bell Telephone Companies from 1881 to 1927, inclusive." I requested from the Western Electric Company the underlying data supporting Exhibit X-102.

4525 In answer to that request, I was advised by the Western Electric Company that the underlying papers—the working papers underlying the Exhibit D-61 of which this shows the detail by years, would be furinshed in Chicago, and then subject to the approval of counsel.

Cross-Examination by Mr. Thompson.

4527 I said in my direct examination that there were three companies included in the list of 88 companies that had profit sharing arrangements with their employes. I am familiar with the practice of only one of the companies, as to whether the profits which were shared with the employes were deducted from the profits as shown in their reports, included in Poor's and Moody's Manuals. In that company, the profits paid to employes were deducted as an operating expense, with the result that its profits were understated to that extent, in Poor's and Moody's Manuals. I do not think that the comparison shows the earnings of these three companies as lower than they actually were.

4528 In the case of the Endicott-Johnson Company, I am under the impression that Mr. Gregory excluded that profit-sharing arrangement. This profit-sharing affects the comparison between the Western Electric Company and these 88 companies, in that in most cases the profit-sharing arrangement is in lieu of a pension fund. In the case of the Western Electric Company, the pension fund is deducted as an operating expense, and in other cases of profit-sharing arrangements, it is a form of profit-sharing which does not enter into normal operations. It affects the statement of earnings of one of the companies, Endicott-Johnson, as shown in

4529 the exhibit including the 88 companies. That means that if they have taken part of their earnings out before they reported them to Poor or Moody, their earnings are lower than they would have been if they had left it in, but I wish to point out that in Exhibit A-85, effect has been given to that factor. I think there is a point to it.

Whether in Exhibit X-79 an attempt is made to show the earnings made by the Western Electric Company on its investment in Electrical Research Products depends upon what you mean by "earnings on its investment." By the statement

"Profits from operations of Electrical Research Prod-
4530 ucts and percentage of return on Western Electric Company investment," I mean that it shows the percentage of return, using as the basis, the profit from the operations of the Electrical Research Products, as compared with the original dollar investment of the Western Electric Company. In 1927, the line which says "Average investment of Western Electric Company," $2,299,000, is not the dollar investment of the Western Electric Company in Electrical Research Products capital stock for 1927. It excludes the investments and marketable securities; it represents the cash and accounts receivable that were turned over by the Western Elec-
4531 tric Company to the Electrical Research Products, in lieu of capital stock. It is excluding investments and marketable securities which were turned over at the same date. I say, as a result of this exhibit, that the Western Electric Company earned in the year 1929, 309.4 per cent on the average investment of the Western Electric Company in Electrical Research Products, excluding investments and marketable securities of Electrical Research Products. In arriving at that figure, I have included undistributed earnings of foreign subsidiaries for that year in the sum of $2,130,000. The investment of Electrical Research Products in those foreign subsidiaries does not enter into the calculation.

"Q. No, it does not enter into the calculation at all. Of course, if the Electrical Research Products had large
4532 investments in its foreign subsidiaries, and you bring in the profit, and you do not bring in the investment, it is not hard to get a figure of 309, is it?

A. But I am calculating the return to the Western Electric Company. The Western Electric Company had an investment of $2,250,000 in Electrical Research Products.

Q. Well, does not this 309.4 per cent attempt to show that there was that large earning by the Western Electric Company on the basis that you think is the fair and proper basis to set up in an exhibit, or is this just a calculation?

A. This is an attempt to show what the earnings actually were."

I stand back of this figure of 309 per cent as the earnings of the Western Electric Company on its investment in Electrical Research Products. I showed $2,130,000 of earnings made by Electrical Research Products from its foreign
4533 subsidiaries, without reflecting or giving any effect whatever to the investment of Electrical Research Products in its foreign subsidiaries because the subsidiaries are owned wholly by Electrical Research Products. Electrical Research Products has money invested in them. As an accountant I do this because I am calculating the return of Electrical Research Products and subsidiaries, the return of the Western Electric Company, and all of the money that the Western Electric Company has invested in the entire Electrical Research Products organization, was $2,250,000.

4534 In my opinion as an accountant, that is a proper basis upon which to make a calculation on which to determine earnings. There may have been an internal profit on Electrical Research Products sales to its subsidiaries, on inventories which were not disposed of during this period of time. That was not excluded from their profits because I had no basis of arriving at it.

"Q. Well, you are setting this up to show what the profits were: Did you make any inquiry to ascertain whether that was a fact, and if it was a fact, how it would affect this calculation?

A. I used the best available information that I could get.

Q. Well, this is an affirmative piece of work that you have done, which results in showing perfectly tremendous profits made by the Western Electric Company here. Did you
4535 not want to know whether this was a correct calculation or not?

A. Well, I am restricted in any calculation that I may make, by the data which is made available to me.

Q. Did you inquire about that?

A. I did not inquire about the profits which may have been —which might have been in unsold merchandise,—but I feel that such an effect would not be very material, because if it is taken out of one year, it would be reflected in another year.

Q. Well, how do you know how it can affect one of the years, if you do not know what it is? If you have no idea as to the amount, how can you say it is not material?

A. Well, the question of inventories only affects one specific year. Eventually profit is to be picked up, whether it is to be picked up in one year, or picked up in another year.

Q. No, but this is consolidated—you are trying here to find out, not the difference between an inventory of one company, and the same company in another year, but where there are subsidiaries, where there is an inter-company profit?

A. Well, the only inter-company profit would exist be-
4536 tween Electrical Research Products and its subsidiaries."

I do not know whether it is a fact that Electrical Research Products was largely financed by means of loans made by the Western Electric Company, to Electrical Research Products, rather than by stock issued by Electrical Research Products itself, or by a bond issue. I never studied that phase of the situation. I do not think that it was important, when I was trying to find out what the return to the Western Electric Company was, to ascertain the method of financing of Electrical Research Products. If I had found out that there were large loans made continuously by the Western Electric to Electrical Research Products, so that it was really financed through loans, I do not know that I would have changed the exhibit so as to include those loans as a real part of the Western Electric's investment, nor found out the return not only on these small figures that I have put in here, but on the larger figures including the loans.

4537 I do not know what I would have done if I had found that out. I cannot answer a question like that without giving it some thought.

"Judge Wilkerson: Suppose we take an extreme case; suppose the company actually had, as its investment, $1,000, as far as its investment was concerned, but as a matter of fact, the entire investment in the business is more than $5,000,000. Would you in estimating your profit, take the per cent on the $1,000, or the $5,000,000?

The Witness: It depends on who contributed the $5,000,000. If the $5,000,000 was borrowed, if it was borrowed from the banks—

Judge Wilkerson: I am assuming that the Western Electric Company contributed it.

The Witness: You can calculate the basis—the re-
4538 turn on two bases. You can calculate it on the original investment—

Judge Wilkerson: Well, is there any system of accounting by which it could only be figured on the $1,000?

The Witness: I think there is.

Mr. Thompson: Q. No, but that is what you have done here, is it not? That is what you have done here deliberately.

A. I have not done it deliberately."

In getting up Exhibit X-79, I had in mind showing the profits from operations of Electrical Research Prod-
4539 ucts, on an operating basis only, excluding the non-operating income.

4543 "Q. Mr. McCann, I notice that on some of the exhibits that were introduced this morning, the legend "Per Touche, Niven & Company." As I understand it, you have done this work, flowing into all of these exhibits, on behalf of the firm of Touche, Niven & Company, is that correct?

A. That is correct.

Q. Now, I want to hand you this Exhibit X-79, and I want you to assume that Electrical Research Products wants to put out a bond issue, and it wants to go to the public with that bond issue, and I represent the bankers, and I come to you with that statement. Will Touche, Niven certify that, as a correct statement of the return on investment, on
4544 which bonds are to be sold to the public?

A. Well, to begin with we could not certify it, because I have accepted all of the figures from the company; I have not verified any of these figures.

Q. Oh, no—

Judge Wilkerson: Assuming the accuracy of the figures.

Mr. Thompson: Yes, assuming the accuracy of the figures. Will you certify them to be—

Judge Wilkerson: Assuming the accuracy of the figures, would you certify this method of estimating the per cent of return?

Mr. Thompson: Yes, to the public that is going to put its money into bonds on this property.

The Witness: You cannot answer a question yes or no—

on a question like that. It involves too many outside elements."

Exhibit X-67 is an attempt to show the return on investment of the Western Electric in the International Western Electric for the years 1918 to 1925. That is just
4545 the dollars actually invested; it is not the money left in the business from earnings at all. The second thing is that I have included in here as one of the large factors affecting it in the earnings shown, $15,955,095 of profit on the sale of the International Western Electric Company.

I believe that that company, its affiliates, and its predecessors, conducted a business abroad from about 1882 until 1925. The profit on the sale of that business does not necessarily represent the undistributed earnings in the business from 1881 down to 1925. It represented the profits they made in 1925 when they sold the business.

I say it was all applicable to the period, 1918 to
4546 1925. I offered as a reason for including it all in that period, that there were certain statements in the stockholders' reports of the Western Electric Company that showed first that it had sustained capital losses during the war period abroad, and second, that it had not made any money in this business abroad during the war. I cannot give
4547 you the page numbers, but the statements appear in the annual reports for the years prior to 1920. (Counsel handed witness annual reports for years 1918 and 1919.) The report for the year ending December 31, 1919, and the report for the year ending December 31, 1918, are the reports
4548 I say and referred to in my testimony yesterday. They are the reports I rely on. I do not know whether you have correctly marked the extracts that I rely on. I do not know, because I went through the entire report. I could not state the pages.

Those particular reports are one of the factors that I relied on. I also relied on the contention that the profit is made
4549 when the sale is made; that the profit on a sale of a business is not to be allocated over any period of years. I relied on the two taken together.

If the Western Electric Company had an investment in the International Western Electric Company and its predecessor corporations covering the period 1881 down to 1925, and those

companies had made substantial earnings from 1881 continuously down to December 31, 1917, which had been left in the business and then in 1925, the Western Electric Company sold its stock ownership in the International Western Electric Company, if I were going to figure the return on Western's investment for the period 1918 to 1925, I would include the profit in the year in which the sale was made, no matter what year they were made in:

"Q. Without respect to when the earnings of the Com-
4550 pany had been made, whose stock was sold, and resulted in the realization of a profit?

A. You are drawing the inference that the profit—

Q. No, I am drawing no inference. I am asking for your opinion.

A. Well, you have made the statement that the profit on the sale is related to earnings. That may or may not be related to earnings for proper years.

Q. Do you know what the fact is in this case?

A. I know that the Western Electric Company made a profit of $15,000,000, but I do not know why."

4553 In a number of my exhibits, I have apportioned the unexpended balance to the reserve for depreciation be-
4554 tween the Bell and non-Bell investment. I did not follow the method which Mr. Gregory used in making this apportionment because to my knowledge there were no working papers available at the time I made my apportionment. I mean that I made my apportionment before Mr. Gregory introduced Exhibit A-194, which showed an apportionment. I couldn't have followed his method. I used the
4555 method which is the only basis which I could see could be used, in the light of the facts I had. I wouldn't say that my method correctly reflects the apportionment of the unexpended balance in the reserve between Bell and non-Bell. All of these methods of allocation are subject to argument. There is no such thing as correct or incorrect. It is a matter of opinion. I wouldn't say that my method was right. It was the only one that I could use, in view of the data which was furnished me by the Western Electric Company.

4556 I would not say that any allocation I made between Bell and non-Bell is the proper method. I merely tried to use some method that would give a result as between Bell

and non-Bell, without attempting to pass on the propriety of any method that was used by Mr. Gregory, or any method which I might adopt. I prepared this exhibit where I allocated an unexpended balance in the reserve for accrued depreciation between Bell and non-Bell business long before I saw Mr. Gregory's exhibits. I could not have followed any method that he used because he had no apportionment at that time. I was confronted with the necessity of making an apportionment between Bell and non-Bell, and I chose a method of apportioning that on the basis of average plant
4557 investment. It is the same thing as the average plant invested as reflected in Mr. Gregory's exhibits.

"Q. Now, you did that because you believed that apportionment made by that method would be substantially and approximately correct? Or didn't you believe that it would be correct?

A. I am not passing on the correctness of the apportionment.

Q. I know; but you introduced an exhibit here, not based on any method used by Gregory, where you chose your own method of apportionment, and I want to know now, whether you say it is right, or whether you repudiate the method you used?

A. I do not repudiate the method, because I used the apportionment of the reserve for depreciation—I used the same apportionment of that reserve as Mr. Gregory used of his plant account. I had no means of telling how much of the amounts of reserve applied to one class of plant, or another class of plant.

4558 Q. And you put up an exhibit in which that is an important part of your work, in making your apportionment of this reserve for accrued depreciation between Bell and non-Bell. I want to know whether you say to the court that the method used in the exhibit will give an approximately accurate result, or whether it gives no result.

A. I can answer it in this way: That in view of the facts that there were at my disposal, it was the only apportionment which I could think of that I could make.

Q. Do you say it gives an approximately accurate and fair result, so that when the court looks at these exhibits where you have attempted to apportion this unextended bal-

affee in the reserve between the Bell and the non-Bell business, he will get a substantially accurate picture of the amount that you say ought to go against the Bell business? Now, either he can or he cannot. I want to know which.

A. Well, if you attack my apportionment of the reserve, you attack your own apportionment of the plant account.

Q. I am just asking you the question. You have used it now. We didn't use it at all in that connection. I want
4559 to know whether you say that by using it, you get an approximately correct answer.

A. I say that it is the best apportionment that I could make, in view of the facts which were at my disposal."

I have presented exhibits prepared by me, in which I am proceeding upon the theory that the average investment of the Western Electric in its Bell and its non-Bell business, should be reduced by the unexpended balance in the reserve for accrued depreciation. In order to do that I have to apportion that unexpended balance between Bell and non-Bell business. I did not have the Western Electric Company exhibit and could not use their apportionment, so
4560 I had to make an apportionment of my own. I would say that the basis I had to choose from was rather limited. I had very little information. I had to make it on some basis.

"Q. Do you represent to this court that you have made it on a basis that will give an approximately fair and correct answer, or is it to be disregarded? I want to know, one or the other, without equivocation.

Mr. Goldstein: Mr. Thompson, will you explain whether you mean now as a result of the allocation of depreciation reserve, or the result of the rate of return? Which are you talking about, you are confusing this witness by the two things. One has nothing to do with the other.

Mr. Thompson: No.

Mr. Goldstein: Let's get the question straight, so
4561 there will not be any ambiguity.

Mr. Thompson: There is no confusion, no ambiguity.

Q. You understand, don't you?

A. I don't think I do follow you; I have answered you about four times, and each time you go back to the same question.

Q. All right. Now, what do you think I am trying to get at? Don't you know?

A. You have asked me why I used that particular apportionment.

Q. Yes.

A. What I have tried to explain is, it was the only one available, the only available basis that I could use.

Q. Now, let's follow through, and I am only trying to get your view of this, Mr. McCann. You set up certain exhibits that you ask the court to take, which are based on the theory that there should be deducted from the average investment in the Bell business, and the average investment in the non-Bell business the unexpended balance in the reserve, is that right? You understand that step now thoroughly?

4563 Mr. Thompson: Q. Do you understand my question, Mr. McCann? After Mr. Goldstein's statement, you don't understand it now, is that right? You told me a minute ago you did.

Mr. Goldstein: We would like to know what apportionment you are talking about, because that is the vital part of this case, and you are trying to bring two thoughts into one question, and we have a right to know which thought you are talking about.

Mr. Thompson: Q. Can you understand the question, or can't you?

A. I am afraid I can't, at the present time.

4564 Q. All right. We will pass it. The amount of two million dollars is included—

Judge Wilkerson: Q. In your opinion, is the basis as stated there, the correct basis?

A. Well, that all depends on the circumstances. I have made a very limited examination of these records, and if I had made the apportionment of plant as well as the apportionment of reserve, I might have adopted an entirely different basis; but Mr. Gregory made the apportionment of plant.

Judge Wilkerson. Q. The whole point is, what do you expect us to do with the exhibit, what are we to do with it? What do you think it shows to us?

A. I think it represents as good an apportionment as I could make, under the facts which were presented to me.

Q. But you are not prepared to say that in your opinion it is correct?

A. That is right."

4566 I did not follow Mr. Gregory's method in apportioning this unexpended balance in the reserves. As I stated before, his apportionment was not made at the time I made mine, but his apportionment was examined by us subsequently, and in my opinion the difference between his apportionment of the reserve and my apportionment is not material to the case, except in so far as it affects the extraordinary depreciation reserve. In other words, I do say that there are differences, but they are not material.

4567 I said I did not follow Mr. Gregory's method, but I believe, in my opinion, that the differences between the two methods are immaterial. I think they are both substantially in agreement, except as far as the extraordinary depreciation reserve is concerned. I would not pass upon the correctness of the method used.

The amount of two million dollars which was included in Mr. Gregory's exhibit as an operating expense on account of depreciation on machinery in the year 1928 first appeared on

4568 the books in 1928. A portion of that could have been claimed in an amended income tax return of the Western Electric Company, for the years 1924, 1925, 1926, 1927.

I was furnished with a reconciliation of the books with the income as finally determined with the Income Tax Department, and as shown by amended returns for the later years, and that item appears as one of the items of reconciliation, showing it was not taken up in the Federal Income Tax Return.

I don't know whether the Western Electric has made a claim to the Government on account of this $2,000,000, but I do know that the reconciliation which they furnished me, which purports to be a reconciliation between their Federal

4569 Income Tax returns and the books, shows this as an item of reconciliation. I have not examined their tax file correspondence, so I cannot pass upon whether they have asserted a claim with reference to this. I am familiar

with the general method in which these things come up with the income tax authorities in the larger corporations. A
4570 field examiner comes around to examine the reports many years after they are made.

4571 I know this. I was furnished a reconciliation of the Federal Income Tax returns as filed with the profits on the books, and in that reconciliation the item of two million dollars referred to by Mr. Thompson appeared as an item which was not claimed as a deduction. Now, whether they made a claim subsequent to the return, I don't know. But I do know that in the return as filed, as amended, it was not claimed. What has happened afterwards, I don't know. I don't assert anything in respect to it one way or the other, except so far as it affects the Exhibit 66.

4572 During the course of my employment on behalf of the defendants in this case, I was requested to make some examination of the 1931 records, at a time quite subsequent to my first employment. I made an examination of 1931, but not to the extent that I made of the prior years, because of the lack of sufficient time. I furnished the work sheets on 1931 to Western Electric employes for checking, but they were not furnished as such. It merely happened that the 1931 figures were inserted on the working papers where they happened to fit in.

The following exhibits fail to include any figures as to earnings on investment, or any other figures with respect to the Western Electric Company for the year 1931;
4573 X-48 to X-65, inclusive; except X-49-A, which is a Western Electric statement, X-81 to 88, inclusive, X-99, and X-79. I don't believe any of the exhibits introduced through me cover the year 1931. The exhibits were prepared long before we had any access to the 1931 figures. When we began our work, the only figures available were for the years 1916 to 1930. Mr. Gregory's statement, with which we are drawing comparisons, cover the same period, so there was no reason for including the year 1931. I did not have access to the books and records of the Western Electric Company for 1931 long before I went on the witness stand. We requested
4574 the right to examine for 1931 all the same books and records as we examined for the other years.

"Q. You made whatever examination you pleased of them?
A. I was restricted as far as time was concerned."

I don't mean that I didn't have the time to devote all my time to this examination. I had access to the 1930 figures back in January. As a matter of fact, I made no examination of the 1931 figures until away into April.

"Q. Do you know from Mr. Gregory's figures on his exhibits that the earnings of the Western Electric Company in its Bell business are the lowest for the year 1931 that they had been for any year in the period 1923 to date, except for the first part of 1932?

A. I am not familiar with the 1931 figures.

Q. Weren't you interested in the 1931 results?

A. Not particularly.

4575 Q. Did you, yourself, determine that 1931 would not be put in here?

A. Well, I was instructed to prepare exhibits that would be comparable to A-77 and A-79, and, as I explained before, the exhibits were prepared long before I had any access to 1931 figures.

Q. Now, since you have had access to them, you know that the year 1931 is included in this controversy, don't you? You did know that, didn't you?

A. I don't know that I did. Mr. Gregory's exhibits A-77 and A-79 do not include 1931.

Q. But 78 and 80 do?

A. On an estimated basis.

Q. Yes, exactly, and then figures were brought in later. You knew that, didn't you, when the figures for 1931 were brought in. What I want to know—I am not going to pursue this further—I want to know whether you, as an accountant, determined that the year 1931 was not to go in this case, or whether some one else determined that.

A. Why, I did not determine anything relative to the year 1931.

Judge Wilkerson: I understand you to say you followed instructions?

A. When I first made up my exhibits, the year 1931
4576 was not in the case, the figures were not available, the books were not available, and I made the exhibits."

In our Exhibits X-50, X-53 to 58, inclusive, 84, 86, and X-88, I have made certain adjustments on account of pension fund accruals, assuming that the exhibit numbers are correct. I will accept your figures subject to check that in these exhibits

for the years 1916 to 1930, I have made the following adjustments to profits on account of this pension fund situation: I have increased the Bell profits by $1,558,000, I have reduced the non-Bell profits by $517,000, and I have increased the profits on the total business by $1,041,000.

I will accept your figures, subject to check that for the period 1923 to 1931, I increased the Bell profits by $5,912,000, the non-Bell profits by $1,350,000, and the total profits by $7,262,000.

4577 The adjustments covering pension fund accruals all proceed upon the theory that the Western Electric Company had accrued larger amounts for Pension Fund purposes applicable to both its Bell and non-Bell business in the two periods than correct actuarial computations jus-
4578 tify. In determining what the proper actuarial computations were, I used a statement identified as Exhibit D-26, the title of which reads as follows: "Actuarial computations of required pension fund accruals, 1916 to 1930, and minimum fund requirement." This sheet was furnished to counsel for the City of Chicago by the Western Electric Company. I don't know the date. I did not know by whom it was prepared. I did not know that after a controversy had arisen here in court, the company employed Dr. Arthur Hunter, chief actuary of the New York Life Insurance Company, to determine what the facts were in this connection.

I did not see Dr. Hunter's exhibits before I put these
4579 exhibits in, that contained the adjustments on the pension fund accruals. I did not know that he had testified. I do not, by my exhibits or my testimony, undertake to express any opinion about the facts from an actuarial standpoint.

Fundamentally there was no difference in the method of my apportionment of these pension fund accruals between Bell and non-Bell business for the period prior to 1925 and for the year 1925, and subsequent thereto. By use of the word "fundamentally" I mean that I attempted, in so far as possible to make the apportionment between the Bell and non-Bell on the same basis throughout.

It may be substantially different here due to the item of $1,400,000, which is the Graybar pension fund. Prior
4580 to 1925, the apportionment which I made was based on the cost of sales—I presume supplies were included.

I don't know as a fact. I will have to examine my working papers before I can say whether, after 1925, my apportionment was based upon the Western Electric Company's method, which means that adjustments were apportioned on the basis of salaries, where, for instance, the installation and distribution houses were all Bell, and, in the case of the manufacturing department, the apportionment was on the basis of cost of sales.

"Q. I wish you would. You don't need to do it now. Then I want you to answer this question: If it is not a fact that, even upon your own theory, your method of apportion-
4581 ment prior to the year 1925 results in penalizing the Bell business, that is in increasing the profits on account of its pension fund accrual by approximately a million and a half more than you would have increased them if you followed the same method of this apportionment as you did follow for the years 1925 and subsequent thereto?

A. I can't answer that question, for I don't know.

Q. Will you look into it? I would like to have it answered.

A. I am afraid that it would involve considerable work on my part, and I don't think I should be called upon to do it.

Mr. Thompson: Well, your Honor, it is a curious situation; he brings in exhibits that make certain apportionments.

Mr. Goldstein: He accepted your figures.

Judge Wilkerson: Well, he will be governed by instructions of counsel, I suppose, as to what he will do, and they have called on you for a good many things.

Mr. Thompson: Q. Do you decline to do this job?

A. It is not a matter of declining, Mr. Thompson. It is just a matter of, I don't know what the result would show if I used any other basis. I have used the basis, I defined the basis.

4582 Q. I ask you specifically whether there was a difference in the methods between these two periods; you say you don't know, you are going to answer that question?

A. I am going to answer that question by reference to my working papers.

Q. Will you also let me know tomorrow whether you decline to undertake or will undertake this other—

A. Yes.

Q. —this other investigation?

A. Yes, I will answer."

4584 (Documents marked for Identification Exhibits A-216 and A-217, respectively.)

Exhibit A-216, being a statement furnished by the Western Electric, marked D-25, was before me when I did my work on Exhibits X-50 and X-53 to X-58, inclusive.

Exhibit A-217 is one of my work sheets. In Exhibit A-217, in the total additions to the fund opposite the year 1925, I have $4,977,000. I have a note to that which says that it includes $1,400,000 for pension fund, under agreement with the Graybar Electric Company. I come over to sheet D-25, furnished by the Western Electric Company, and I say that they have not included credits for pension fund accruals on the exhibits $1,400,000, because they use the figure there $3,576,305. What I did was to compare the total pension fund accruals for 1925, including the $1,400,000 for the supply department, against the pension fund accruals per actuarial computations, and I get a difference of $1,373,000, by which sum I adjusted profits. I do not see how it is $1,400,000 too much. The $1,400,000 that is in here is

4586 not in this figure. But the $1,400,000 is on the books in that particular year as a charge against non-Bell earnings. I was trying to adjust the figures which had been used by the Western Electric as credit for pension fund accruals, to the actuarial computations.

Q. Now, in making that adjustment in every other year but 1925, you followed D-25. In 1925, you made the comparison as against a sum which included $1,400,000 reserve for pension fund for the supply department of the Western Electric, which had not been used by the Western Electric?

A. It is included in the Western Electric expense for that year.

Q. Exactly, but not reflected in these exhibits on account of the pension fund?

A. Not reflected in these exhibits.

Q. Nor any other exhibits?

A. But it is still reflected in the profits for the year. By doing this, I am not only adjusting the difference between this exhibit and the one showing actuarial calculations,

4587 but I am also excluding from profits the $1,400,000.

Q. That is the effect of it, isn't it?

A. Yes."

My understanding is that the $1,400,000 was included as an expense in Mr. Gregory's non-Bell exhibits.

I don't believe I was present; I do not recall hearing Mr. Gregory's testimony that, in making up his pension fund accruals, he had not included the $1,400,000 in the pension fund expenses of the supply department, that is, the non-Bell business. The most that I say for this is that it is not really an adjustment on account of pension fund, which it purports to be, but it is an adjustment to take the $1,400,000 out of the earnings of the Western Electric in its non-Bell business for that year.

It is included there merely because it related to pension fund, not to that specific calculation of pension fund, but it represented a pension fund set aside at that time for
4588 the Graybar employes. It is a proper adjustment in the exhibits. It is on account of pension fund that it is earmarked especially; I would not have to star it otherwise.

"Q. But when you came to make the comparison, while you earmarked it, when you came to make the comparison, you compared it, did you not, with the figure used by the Western, which did not include that sum, with the result that you got an adjustment of $1,400,000 larger than it would have been if you had used all the figures which have been used by Western in setting this up?

A. If I had adopted the method you describe, I would have shown the $1,400,000 in one separate column, I still would have made the adjustment of $1,400,000.

4589 Exhibit 51 consists of three sheets, and purports to show average investment of the Western per Exhibits A-77 and A-79 adjusted before depreciation, net profits per Exhibits A-77 and A-79, and average return on investment.

Q. Now, you carried out these figures here, average return on investment. Are we to understand that this exhibit purports to show, as to the Bell business on the second sheet, what you believe to be the return on investment on a proper basis, or is this merely a calculation?

A. It is a calculation for the purpose of showing the effect of the adjustments that were made to the average investment as compared with Mr. Gregory's profits.

Q. But you do assert that the whole exhibit is on a basis

so that the return on investment appearing in the third column means something?

A. I think that is self-evident from the exhibit it-
4590 self. I have excluded from the average investment in column 1 of this exhibit (sheet 2, which is the Bell business), the notes payable to the trustee of pension fund and the American Telephone & Telegraph Company and to others, in a cumulative amount, for this entire period, of many millions.

Q. As a matter of fact, you have not decreased the profits at all by deducting from the profits $19,753,000 of interest applicable to the notes which you excluded?

A. Well, the purpose of this exhibit was not to show the investment and the profits on a comparable basis. It was merely to show the effects on the investment of these deductions.

Q. Mr. Witness, you not only show the average investment as adjusted to the net profits, but you carried out a return on investment?

4591 Now, I want to know whether you say that doesn't mean anything, or, is the court to take that return as indicating anything?

Mr. Goldstein: Now, which exhibit are you now speaking about?

Mr. Thompson: Fifty-one, the second sheet.

A. Why, I think the exhibit speaks for itself.

Mr. Thompson: What I understand you did was this—

A. I admit that as far as the interest on the notes that are deducted here—as far as that interest is concerned, it is not taken out of this figure.

Judge Wilkerson: Pardon me just a moment. I suppose, having put this in, that we are to understand you testify that the return on average investment before depreciation, is represented by these percentages which you put down in these columns, is that right?

A. Yes, but that is only one of the exhibits leading up to what might be called a final exhibit, where the adjustments are shown both on the assets and on the profits. It does show the effect of the asset base alone.

4592 Judge Wilkerson: What I mean is, we don't want to be confused by this column headed "Percentage."

Mr. Thompson: Exactly.

Judge Wilkerson: We have a large number of exhibits here. Now, we take these exhibits and look at them. Are we to understand that you testify to something here about those percentages? What is your testimony about the percentages?

The Witness: I don't think I have testified to anything about percentages on this exhibit.

Judge Wilkerson: Well, what functions then do they serve?

Mr. Thompson: Exactly.

Judge Wilkerson: I say, what is their purpose in the exhibit? Are they evidence in the case, and if so, of what? Just what conclusion are we to draw from those percentages? That is what I am trying to get it. That applies not only to this, but to a large number of the exhibits. You have all kinds of percentages set out. Now, just what are we to do with those?

The Witness: Well, you understand, of course, that where you have two factors, that is, you have a factor of investment and a factor of profits, and you want to give effect to
4593 just one of the factors, naturally any comparison drawn between an adjustment on one factor without a corresponding adjustment on the other factor, does give an incorrect picture, but—

Judge Wilkerson: Well, in this case we have to make findings, and one of the findings which we will have to make will be the per cent profit of the Western Electric on its business, on the business with the Bell Company. Now, when we come to set down in our findings that percentage that we are required to find in this case, what use can we make of your column here? That is what I am trying to get at?

The Witness: Well, there is a later exhibit that adjusts both the profits and the rate base.

Judge Wilkerson: Is there an exhibit to which all these refer—

The Witness: Yes.

Judge Wilkerson (continuing): —which gives your idea as to what the profit is?

The Witness: Yes, and that is stated in the testimony.

Judge Wilkerson: All right."

4594 I have a later exhibit in which I make adjustments to profits, and not to average investment. We have still another exhibit, our final exhibit, in which we adjust

both profits and investment. This Exhibit 51, in all
4595 three of the sheets, I have adjusted by reducing the average investment, by taking out millions of dollars of notes payable. I have not decreased the profits by taking out the interest of more than fifteen and three-quarters million dollars applicable to the very notes that I have taken out. And the result is that my return shown in the third column here is correspondingly higher by the effect of that fifteen million dollars.

What has just been said with respect to Exhibit 51 applies equally to X-52, all three sheets of it. It applies to X-53 except that the conditions are reversed, the profits are adjusted, and not the investment. It applies to X-85. It
4596 does not apply to X-87. There are adjustments made in X-87 to profits and adjustments made to average investment. It applies to X-86.

4597 What was said about the Exhibits X-51, X-52, X-85 and X-86, so far as reducing the investment by excluding notes payable to the trustee of the pension fund and others applies equally to the exclusion by me of excess cash, but not eliminating from profits the interest received on such cash.

Now, about these notes payable, I did not know that
4598 from 1927 to the present time the Western Electric Company has borrowed from the trustee of the pension fund all of the amounts in that fund, but I assumed from the size of the notes that it was practically all of the amounts. I do not know whether any of that has been repaid or not. Before I could say whether the Western Electric has had that money borrowed continuously from the trustee of the pension fund during a period commencing in 1927 down to and including the present time, I would really have to see that it was outstanding all the time. I did know it was outstanding at the end of each year. Whether there were any repayments during the years, I don't know.

When I excluded, in my final exhibits, these loans from the trustee of the pension fund, I took into considera-
4599 tion the factor, that the Western Electric Company had had this money borrowed continuously from the trustee of the pension fund. If the company borrows ten million dollars, not on a bond issue, but on its unsecured notes, running for two years, and it invests the money in

its business, then in figuring this average investment, I would exclude those notes, even though they were two year notes. They represent temporary working capital, not permanent capital. If they were five year notes, whether I would exclude them would depend upon the conditions under which the notes were issued, and would depend upon the purpose for which any rate of return might be shown. If the company borrowed ten million dollars for five years on notes it was going to use in its business generally, when I ar-
4600 rive at the average investment, whether I would exclude the notes depends upon specific conditions. Whether I would exclude it or not would depend upon the circumstances surrounding the individual case. I would exclude a mortgage obligation under certain conditions; under other conditions I would not. You can't generalize about such items.

I excluded the notes payable to the trustee of the pension fund in this case for two reasons. The first is, I do not see any distinction between money borrowed from the trustee of the pension fund and money borrowed from a bank. If you didn't have the trustee of the pension fund to borrow it from, you would have borrowed it from the bank. If I exclude the notes payable to the bank, I should exclude the notes payable to the trustee of the pension fund. The other reason is that the notes payable to the trustee of the pen-
sion fund are, in reality, in lieu of a reserve for pen-
4601 sion fund.

The years prior to the time the money was with the trustee, it was in the pension fund, and I excluded the pension fund, therefore I also exclude the notes; a change of form.

I believe that as a matter of fact, what the Western Electric Company does, is to borrow large amounts of money from the trustee of the pension fund, and issue its demand notes for them, and then use that money in its business. One of the reasons why I exclude that, is on the theory that it is a temporary borrowing. That is not the main reason. The main reason is that you should not include in your rate base, as a basis for an eight or ten per cent return, something that is borrowed, and upon which you are only paying 5½ or
4 per cent interest. The effect of it is to give the own-
4602 ers of the business a higher rate base. And they make

the difference between the rate of return and the rate that they pay on the borrowed money.

4603 The fact that the loan was temporary was one reason why I would not include it in the rate base. The second one, it was analogous to the reserve for pension fund; and the third, is because to include it in the rate base is to make a profit equal to the difference between the rate of return on the rate base and the amount paid to the trustee. The fact that these were demand notes is one of the factors.

I understood that this pension fund money was continuously in the business for a period of years. I considered all the elements, the form of the transaction, and the substance. I did the same with the money borrowed by the Western Electric from the American Telephone and Telegraph

4604 Company, where there was no obligation to return it under a year; I took that out because it was temporary.

I did not see correspondence between the presidents of the two companies, showing that in 1929 and 1930, the Western Electric had had that money for at least a year. I did not know of the correspondence, but I don't think it would have changed my calculation. That the loans are temporary is one of the factors.

"Q. I have asked you about these two, to try to show you, to try to put to you, that if the loans were in fact not temporary, but for more than a year, would you still have excluded them?

A. If they are of the type of loan that you describe, yes."

4605 Exhibits X-54 and X-55, not like the ones that we have been discussing, are exhibits which I want to be taken as showing what I claim to be the rate of return for the Western. In Exhibit X-54 I excluded certain cash which I claim to be excess cash, and excluded from the profits, interest at the rate of 2.5 per cent per annum. The rate of 2.5 per cent was a composite rate which was compiled from information shown in the report CR-714. I think it cov-

4606 ered the period from about 1916 to—up to possibly 1927. I don't recall if they went for the entire period or not. As a matter of fact, I did not exclude the so-called claimed excess cash in all years.

I don't know whether I could get an average of all of the years for the cash, because I would have to look at my

working sheet on that to see just how I determined the rate. I recall I only took out cash in certain specific years. The largest amount was taken out in 1925. I don't know it to be a fact that in that year the records which I say I had an opportunity to inspect showed that the Western Electric Company earned on its cash balance 5 per cent. If it is true that the Western Electric earned 5 per cent on its cash balance in 1925, then, when I applied the two and a half
4607 per cent, which was an average, to the conditions in 1925, which was one year in which I took out a large amount of claimed excess cash, I penalized the Western Electric to the extent of two and a half per cent on over twenty million dollars, amounting to over half a million dollars. I made an investigation before I determined this adjustment. My working sheets show what I did on it.

What was just said with respect to this claimed excess cash and the use of two and a half per cent is true not only with respect to Exhibit X-54, but X-55, X-57, X-58, X-61, X-63 and X-64.

4608 Exhibit X-99 is based upon an attempt to figure what the American Telephone and Telegraph Company would have earned on the dollars invested by it in the Western Electric Company without respect to the earnings of the company left in the business. Included in that exhibit, as a special item, is a special dividend paid by the Western Electric to its stockholders in the year 1927, which is treated as a receipt for the year 1927. It is set forth as a special item. I do not want to give the court the impression that the item is included with another item in the year 1927. It is set forth specially, but it is set forth in the year 1927, and shown as 88.32 per cent earning for that one thing. It includes
4609 earnings made by the International Western Electric Company and its subsidiaries and its predecessors in the foreign field from 1881 to 1927.

In Exhibit X-94 I show a number of adjustments to the 88 companies set forth in Gregory Exhibit A-85. Some of those adjustments are plus, and some are minus. I have not made any effort to find out what the effect would be upon the return shown in Exhibit A-85 for these 88 companies if I gave effect to all of these adjustments.

I think it is self-evident from the exhibit that if you
4610 make adjustments aggregating twenty-five million dol-

lars in one year, on one company, that that would have some effect on the rate of return shown for that company. And if you made the adjustment another way on another company, it would have some effect. These adjustments are not all one way. It is an easy, but a rather long job for an accountant to take these adjustments and find out how much effect it would have upon the figures appearing in Gregory Exhibit 85-A.

"Q. Yes. And as a matter of fact, it would just make a difference of three-tenths of one per cent; I put it to you whether you want to investigate that or not.

A. Well, that, of course, is subject to my counsel."

In Exhibit X-90 I make a comparison of the total operating and non-operating results of the Western Electric Company as shown in Poor's Manual, with the operating results of the Western Electric as shown on Exhibits A-77 and A-79. In making this comparison, the investment fig-
4611 ures taken from Poor's Manual are, I believe, after reductions for notes payable. It is probably correct that no corresponding reduction was made in the profits on account of interest with respect to such notes. The figures which I use here, taken from Exhibits A-77 and A-79 have not been so reduced.

"Q. Now, what you have got here is a comparison on a basis that is wholly incomparable, haven't you?

A. I have a comparison which shows that if the Western Electric Company had been set up on the same basis as the 88 companies, the result would be entirely different."

4612 When the plaintiff made its comparison in Exhibit A-85 between the Western and 88 companies, it was made on the basis that was testified to by Mr. Gregory.

I have compared the earnings of the Western on the one hand with the notes payable out, and with no reduction on account of interest attributable to those notes; and on the other hand, I have compared it with those notes in.

The purpose of the exhibit is to show that there is not any relation between the two, not to compare them. I have no knowledge at all as to the life in service, salvage, or
4613 any other factor affecting the depreciation rates of the Western Electric Company on its machinery. I did not say yesterday that I had excluded from its expenses the two million dollars which the Western accrued in 1928, be-

cause I found that the average rate on machinery of
4614 these 88 companies was seven and a half per cent. I said that my understanding was that the Western Electric used a rate of 7½ per cent. And I said that my examination of the eighty-eight companies disclosed the fact that a great many of the companies—you understand, of course, all of the companies do not disclose their depreciation policy—but most of them that disclose it had rates below 7½ per cent.

I know as an accountant that each company, if it sets up its depreciation rates properly, reflects its own particular experience, except to the extent that it does use the experience of companies in similar lines of business as a guide. A particular manufacturing company can have an experience with respect to depreciation that is identical with another
4615 manufacturing company if they are in the same line of business. If the Western Electric Company makes central office equipment, and Stromberg-Carlson makes central office equipment, the depreciation rate of the two companies on machinery is not bound to be identical. Each company adopts its own basis but it is very likely the rate should be somewhat similar. All I said about the rates for the Western Electric was the fact that their rates in the main, are higher than other companies. I express no opinion as to the propriety of the Western Electric's rates.

4616 I have excluded two million dollars from the expenses of Western Electric in the period 1923 to 1930 because, in 1928, they changed their rates from 7½ to 10 per cent and made it retroactive for four years.

I have my own opinion as to whether 10% was a proper rate. The opinion is not based on nothing; it is based on rates in use by other manufacturing companies and not on the Western's experience at all. I have not been in any of the Western Electric Company's manufacturing establishments.

4617 I have used the term "Excessive depreciation." That merely connotes the difference between the dollars resulting from the rates actually used by the Western Electric, and such sums as have been allowed up to date by the Government to the Western for the expense of depreciation in its income tax returns.

The term "excessive depreciation" is merely to distin-

guish it from "extraordinary depreciation" and to note the difference between the Western's rates and those allowed by the Government for income tax purposes.

Exhibit X-69 is an attempt to show the earnings of
4618 the International Western on the dollars originally invested in its business by the Western Electric Company, whereas X-67 is an attempt to show the earnings of the Western on its original dollar investment in the International. I think the exhibits speak for themselves. In column 3 of this exhibit, underneath "earnings" there appears the sum of $3,458,000, with a note to it. I don't know whether or not this figure includes a special dividend from the Western Electric Company, Limited, of Canada, of $3,028,000. I do know that there was a dividend income included in that year. I am not familiar with the names of the companies from whom the dividends were received. I merely know there is dividend income in that year. I don't know whether that represents earnings of a subsidiary of the
4619 International Western Electric Company, not only during this period 1918 to 1924, in this particular case, but long prior thereto. In have included this, and I have no knowledge as to what the fact is, as to whether the earnings represented by that dividend were made in a period long prior to this. In considering the rate of return, I have treated it as of this particular year. I have included in the Western Electric Company's average investment shown on this exhibit only its stock investment. If I had added loans made by it to the International Western Electric, and then increased its net earnings, by the amount of the interest, whether the result would have been a much lower rate of return would depend upon whatever the facts show. I have not made the calculation.

4620 If the rate of return paid on these loans was less than the rate of return shown by this statement, it would reflect the result. I don't know whether it was lower or not. I did not say that they paid an average rate of interest as high as 18 per cent. I said I didn't know what effect it would have. If the rate of interest paid on these loans was less than 6 per cent, then the inclusion of these loans, if materially large, as a part of the investment, and adjusting the earnings for the interest would result in ma-

terially reducing the calculation which I have shown in this exhibit.

4621 In Exhibit X-82, I have assumed a 10 per cent return on the average investment of the Western Electric Company as shown in Mr. Gregory's exhibits and have proceeded to arrive at the per cent return on this assumed basis, first, on the average capital stock, and second, on average capital stock and surplus applicable to operation. I don't know the operating earnings of the Western Electric Company in this period of whether they were 8½ per cent instead of 10. The purpose of this statement is not to

4622 tie them up with the actual earnings at all. I don't know what the computation is as to the extent that the computed returns are higher than the actual. For the year 1930, I show a 10 per cent return of $28,935,000. The actual earnings for that year, as shown on the Gregory exhibit, were $12,934,000 or about 4½ per cent of the total business; so what I am really doing here is to assume 10 per cent return that the Western said was the proper return on its business, and set it up in this exhibit to show what the result would be if that return had been realized, although it was not in fact realized.

(June 9, 1932.)

4623 I have referred to the provisions of a preferred stock certificate of the Graybar Electric Company, which gave to the Western Electric as the holder of preferred stock of Graybar a certain participation in net earnings. Net

4624 earnings is defined in the certificate itself. (Counsel reads from said certificate as follows):

"The term 'net earnings' as used in Sub-Division 1 of Sub-Paragraph A, shall be deemed to mean, net earnings as determined under the corporation's established accounting methods, and after the deduction of the following items:

A. All taxes except United States Income Taxes.

B. Payments into the Pension Fund of the corporation, covering the current accrued liability, pursuant to the provisions of the corporation's plan for employes' pensions, disability benefits, and death benefits, but excluding payments to make up deficiencies in said Pension Fund.

4625 C. - Cumulative dividends upon preferred stock.
D. The sum of $150,000 for each year."

The following exhibits which have been identified during the course of my examination are based on the stockholders' original investment, without regard to undistributed earnings left in the business; X 67 relating to the International Western Electric; X 69, International Western; X 72, the top block of that exhibit relating to Graybar; X 79 relating to Electrical Research Products in so far as it affects the first computation, there are two computa-
4626 tions, one is on the basis of the original investment, and the other gives effect to the accumulation of earnings; X 82, one column is Capital Stock, and the other is Capital Stock and Surplus; X 81, Northern Electric, which is based on the original investment.

In Exhibits X 86, X 87 and X 88 I have made an adjustment of $2,000,000 on account of the sale of certain property by the Western Electric to the Bell Telephone Laboratories in the year 1925.

In Exhibits X 83 to X 88 I have included in the profits of the Western Electric Company as adjusted, either in whole or in part, the profit resulting from the sale of the International Western Electric, which I have heretofore discussed.

4627 The exhibits are not all comparable as to the question of net profits. Exhibits 83, 84 and 85 are on one basis, and 86, 87 and 88 are on a different basis.

Exhibit X-84 is "Consolidated average investment, profits and per cent of return of Western Electric Com-
4628 pany and its subsidiaries." "In the year 1930 I bring the Teletype into this consolidated statement. I brought in the same companies that the Western Electric Company itself brought in, in making up its consolidated statement. If the Teletype is in Mr. Gegory's figures, it is in these figures. I arrived at the average investment here, by taking the average investment at the beginning and the end of the year, and dividing it. The Western Electric Co. purchased Teletype for approximately $30,000,000.
4629 There is an item of $23,000,000 appearing on the books of Teletype for good will. I believe that I excluded that item in this exhibit. The net result of that was that I have reduced the investment appearing in this consolidated re-

turn by one half of $23,000,000 for the year 1930. I did that because there is an item of good will appearing on the Teletype books, although Western paid $30,000,000 in cash for Teletype. I gave the same treatment to this Teletype situation as I have described in Exhibit X 84, also in Exhibits X 85, X 87 and X-88.

4630 *Redirect Examination by Mr. Goldstein.*

Referring to a question on cross-examination relative to the $1,400,000 Graybar Pension Fund, provided for in the year 1928, as to whether or not it was included in non Bell operating expenses, I have made an investigation since yesterday to find the fact. I find that in Exhibit D-19, which has been previously introduced, the item of $1,400,000 appears in the column "Additions to Employes' Benefit Fund," under the general caption, "Non-Bell Customers," in the year 1925, as a charge against the Non-Bell operations of that year. There is a footnote in D-19 which states specifically that the additional liability for Pension Fund which is charged as a non-Bell operating expense, has
4631 reference to this particular $1,400,000. The footnote reads, "Include $1,400,000 reserve for Graybar Electric Company, Inc., Pension Fund."

I was asked about my change in the method of making the allocation of the Pension Fund accruals prior to and subsequent to 1925. I have investigated my records and I find that when I made the allocation I had before me a copy of Exhibit D-19, entitled, "Western Electric, Inc., Analysis of Cost of Sales by Bell and non-Bell Customers." It covers the years 1916 to 1930, inclusive. That was furnished by the Western Electric.

4632 I found that in the years prior to 1925, there was no direct allocation made by Mr. Gregory of the amount added to Employes' Benefit Fund, whereas for the years 1925 to 1928, there appears in the column "Additions to Employes' Benefit Fund" amounts representing the amount allocated both to Bell and non-Bell customers in those specific years.

With reference to pension fund liability taken up as part of the shop cost in the year 1916 to 1925, D-19 shows nothing, but Exhibit D-72 indicates that the Pension Fund liability was taken up as a part of the shop cost, and was there-

fore on Mr. Gregory's basis distributed on the shop cost of sales.

This shop cost of sales is included on this Exhibit D 19 in one column, and that was the basis used by me in allocating the Pension Fund adjustments in the years 1916 to 1924. That is, I follow the shop cost of sales, because for that period it indicated that they were included in shop cost of sales, and shop cost of sales was distributed between non-Bell and Bell on the basis of cost of sales.

4633 On cross examination I was asked what annual reports I had in mind when I testified on direct examination as to the reason why I made the allocation of profit in 1925, on the sale of the International Western, to the period from 1918 to 1925. I have made an investigation as to those records and found that the annual reports which I had in mind were the annual report for the year 1914, the second page beginning with the paragraph, "It will be impossible," and the annual report for the year 1917, the paragraph beginning at the bottom of page 1 and ending on page 2, and the annual report for the year 1918, the comments in the president's letter under the heading of "Foreign," and the annual report for the year 1919, the comments in the president's letter under the heading of "Foreign."

4634 Also in the report for the year 1917 it states that there was no return on foreign investments. The profits prior to 1918 were capitalized in the $7,500,000 investment set up in 1918, and my contention is that the profits from 1881 to 1918 were either taken out by the Western Electric Company as dividends during that period, or capitalized in the investment of $7,500,000 set up in 1918.

(Motion to strike what witness' contention is. No ruling.)

4635 The $7,500,000 had to come from some place.

4636 We do not have any different practice in our firm as to certifying statements than the practice of other accountants generally. In the instant case I was not

4637 given free access to all of the books, records, files and contracts without restrictions. When we first began our work we were informed that all of the information that we required in connection with the exhibits, which we were to check, was contained in certain data which was made

4638 available to us by Mr. Gregory, that is, the working

papers. In some cases there were things that I wanted, and called for, that I did not get.

I had a conversation with Mr. Gregory with reference to access to the records, and the procedure which was to be followed with reference to getting information. I do
4641 not recall the identical conversation, but the substance of it was to the effect that any records of the company that we desired, or books, we would have to ask for, and
4642 in most cases we were requested to put them in writing, and after putting them in writing, and submitting them to Mr. Gregory's office, we were frequently told that the request would have to be submitted to counsel before we could be given an answer.

In request No. 11 B, I asked for permission to examine the Journal with reference to the Journal entries pertaining to extraordinary depreciation for the years 1924, 1925, 1926 and 1927.

"Q. And were you given permission to make the ex-
4643 amination?

Mr. Thompson: Those are the Journal entries—pardon me. Those were the Journal entries that you introduced in one of your exhibits here in court?

Mr. Goldstein: He was furnished them; he was not given permission to examine anything."

4645 I made requests for documents from the Western Electric Company. My conversation was usually with Mr. Gregory.

4647 In apportioning the reserve for depreciation between Bell and non-Bell business, about which I was asked on cross-examination, I used the plant apportionment as calculated by Mr. Gregory. The apportionment of the depreciation reserve in connection with the exhibit in which I used the plant apportionment, was solely to give effect to the apportionment of the adjustment for depreciation reserve.

(Counsel agree that "Erpi" means Electrical Research Products, Inc.)

4648 "Q. You were asked yesterday about the Erpi Foreign Investment. Did that Foreign Investment come from the earnings of the Electrical Research Products, or the original investment of the Western Electric Company?

A. Yes."

4649 Since cross-examination I made an investigation as to the basis upon which the Pension Fund accruals were built up as used in Exhibits A-77 and A-79. I found that the Pension Fund accruals as used in Exhibit A-77 and A-79 were built up of a charge against operation of the total required accruals, excepting a limited rate of income represented by the interest paid to the trustee of the Pension Fund.

(Counsel for city states that they are not passing on what is or is not required nor on any actuarial question.)

4650 I am merely stating that the total additions to the Pension Fund in those particular years represent the amount which the Western Electric appropriated, plus the amount of 5.5 per cent interest, or whatever rate was paid to the trustee of the Pension Fund. If the Pension
4651 Fund should earn more interest, than the rate of interest computed as a basis for the accrual charges, the accrual charges to operating earnings would be reduced to a corresponding amount.

When I was asked on cross-examination if the $48,000,000 dividend came from non-Bell business from 1881, and I answered "Yes," I had in mind Exhibit D-61, which showed such a possible source, and did not have any other facts upon which I could base a conclusion as to the source of this dividend, as the data supporting Exhibit D-61 were refused me.

4652 Exhibits X-55 and X-88 give the final conclusion of all the adjustments on Bell and non-Bell business, and on the company as a whole, both as to the rate base and as to profit.

4655 "Judge Wilkerson: Now, about this matter of inspection; this matter of the inspection of books has come up right along here in this case. As I have said before, the court does not propose to have this case go off and come back here again on any question of the inspection or production of books. Hard as it may be in the hot weather, if necessary we will stick with this thing until every reasonable requirement has been complied with. If counsel will bring the mat-
4656 ter to our attention, and have a specific complaint about what it is that they wanted to see, and could not see; or if there are any documents in here that represent—a summary of the books, why, of course, they are entitled to see the

books. Now, there has been a large number of indefinite complaints made here, and I do not know for what purpose—whether it is to base an argument upon, that after all, this case will have to come back here again, and be heard over, because the court had made a mistake in not compelling the inspection or production of books. Now, we do not intend to have this case go off in that way.—And I will say that if it takes all summer we will stay here to make a record on that; but we expect to have our attention called to specific things about which complaint is made. * * * I think this:

4657 I think either the matter should be brought before the court in some concrete way, in which the court is invited to rule with reference to specific books, as to which access has been denied, or the leveling of these general accusations should stop in this case.

4658 Mr. Goldstein: Just as bearing upon the question of the state of the record, there are two angles to the question of the refusal. One is, if the information is part of the case of the plaintiff, we have a right to show the refusal to give us access, not for the purpose of having the case reversed, because it is not there, but as bearing upon the question as to whether they have made the proper proof in a case where they must show confiscation.

4659 But if the facts are not in the record, and the question is, shall the court take judicial notice of certain practices in their own experience, and they say because—their witnesses testify that "because of our experience over a period of years, we find that so and so," and we show that we tried to get at specific facts, and they have refused them, in our opinion that has a bearing as to whether or not they have—their testimony of the general practice should be accepted."

4661 *Recross Examination by Mr. Thompson.*

I started my work of examining the records of the Western Electric Company in this case about the last week of December, 1931. I have had three assistants at times; most of the time I have had two. Mr. Whitworth, one of the Chicago partners of Touche, Niven & Co. has also been engaged in the case. We keep a record of the day's work that we have spent.

(Counsel for Plaintiff asks for said time record and defendants' counsel agrees to furnish it.)

4662 I was here part of the time when Mr. Gregory testified; not all of the time. I have not examined pages 4,

5, 6, 7 and 8 of Exhibit A-73 introduced by the plaintiff in this case which purports to show statements submitted directly to Touche, Niven & Company, from December 29, 1931
to February 26, 1932, in New York; then submitted to
4663 Touche, Niven & Company January 18, 1932 to March 9, 1932, at the Hawthorne Works, to find out whether that is a correct statement of information which had been furnished to us up to the date these sheets bear. I will find out whether that is correct or not.

I do not know whether it is a fact that the Western Electric Company brought into this court-room at the time Mr. Gregory was on the stand, five ledgers of the Western Electric Company, 16 journals and 29 cash books, or a total of 50 books of the Western, and all of the other books that are listed, all of the other records of its subsidiary corporations
that are listed on A-74, together with 102 folders of
4664 work papers. After the first hearing in this case, the books were taken back to New York and at my request records were held in New York for three or four days before they were sent back here, because we were engaged in an examination of the underlying data that had been used in Mr. Gregory's exhibits. I do not know how many records or whether all of them were held there.

I believe plaintiff was called up in Chicago and told that it would be a great accommodation to us if those records could
be held in New York. However, I did not call you: I had
4665 an office at 195 Broadway. I think we occupied it during the months of January and February, and again for about two or two and a half weeks in April. That was furnished by the Western Electric Company. We used it for the purpose of examining the Western Electric books and records there. They prepared a lot of statements in response to requests. I did not ask them to prepare statements. In some cases I asked them for certain things and they of their own volition supplied the statements.

When the question arose out here as to a reconciliation of these variations and other adjustments, I believe that Mr.
Hagberg and the accountants of the Western Electric
4666 Company worked together. He was furnished with an office at the Illinois Bell Telephone Company. I cannot say many of his assistants worked there or for what period of time, because I was not present. I went over there to the

building once or twice and spent about a half an hour. I believe that a large amount of records and work sheets and data were made available to Mr. Hagberg over there.

I cannot say offhand how many days we occupied the office in New York. Our men were there week in and week
4667 out. I don't know how many days our forces occupied quarters of the Illinois Bell Telephone Company, because I was in New York a good part of the time.

4668 "Mr. Thompson: I call your Honor's attention to the fact that Mr. Gregory, when his exhibits were offered in evidence, had in court, and the record so shows, all of the books and records of the Western Electric Company and its subsidiaries referred to in Exhibit A-74, and also 102 binders containing his working papers, and that no objection was made to the introduction in evidence of those exhibits on the ground that any information had been denied to the defendants."

R. C. RAINWATER, called as a witness on behalf of the
4737 defendants, having been first duly sworn, testified as follows:

Direct Examination by Mr. Goldstein.

(June 10, 1932.)

My name is R. C. Rainwater. I reside at Wheaton, Illinois. I am a licensed public accountant, occupying the position of Examiner of Accounts for the Illinois Commerce Com-
4738 mission. I have occupied that position about 11 years.

Three years before coming to the employment of the Illinois Commerce Commission, I was accountant for the Southern Illinois Light & Power Company, an Illinois corporation operating public utilities in this State.

As Examiner of Accounts for the Illinois Commerce Commission I examine the accounts, books and records of the various Public Utilities under the jurisdiction of the Illinois Commerce Commission, upon direction by the Commission to make such investigation whenever the Commission consider it necessary, and prepare reports based thereon. I have been

actively engaged in the preparation of the present case on behalf of the Illinois Commerce Commission.

"Mr. Goldstein: I offer in evidence Defendants' Exhibit X-103, entitled 'A. T. & T. Co. (excluding long lines)—Analysis of the Estimated Costs of (1) Carrying investment in physical property used in rendering license contract services, (2) Holding funds available during period to meet cash requirements of licensee companies and (3) Temporary financing of the licensee companies,' for the period 1919 to 1931.

4739

Also, X-104, entitled 'A. T. & T. Co.—Statement of total revenues and expenses showing separately. (1) Long Lines Department Operations, (2) License Contract Operations, and (3) Holding Company Operations, Schedule 3001 of Report to the Interstate Commerce Commission,' for the period 1920 to 1931. These sheets were sent by the American Telephone & Telegraph Company to the defendants. The sheets 1923 to 1930 are at the offices of the Illinois Bell Telephone Company, and I would ask that they be produced, that they produce them and attach them as a part of this exhibit.

Also, Exhibit X-105, entitled 'A. T. & T. Co.—Statement of average assets, showing separately, (1) Long Lines Department Operations, (2) License Contract Operations, and (3) Holding Company Operations, Schedule 200-A of Report to the Interstate Commerce Commission,' for the years 1920 to 1931. The sheets for the years 1923 to 1930, inclusive, are at the offices of the Illinois Bell Telephone Company, and we will have them produced, and attached as a part of this Exhibit.

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Also, Exhibit X106, a document prepared by the American Telephone & Telegraph Company, entitled 'A. T. & T. Co. —Allocation of Taxes, 1923-1930,—Heiss Exhibit No. 10. Analysis of Taxes 1920-1930,' consisting of three sheets, and being an analysis of taxes for each year 1920 to 1930, inclusive.

Also, Exhibit X-107, a statement furnished by the American Telephone & Telegraph Company, entitled 'A. T. & T. Co.—Instrument Maintenance, Years 1923-1927—Heiss Exhibit No. 10,' the corresponding sheets for the period 1920 to 1922 being at the offices of the Illinois Bell Telephone Company, to be attached as a part of this Exhibit."

The Witness (continues): Exhibit X-108, entitled "A. T.

& T. Co.—Average Cost of Funds used in Business" for each of the years 1920 to 1930, inclusive, was prepared by me or under my direction.

4741 All of the figures shown in X-108 were furnished by the Company excepting those in the column marked "Per Cent" and the figures in the line marked "Total" immediately preceding the line marked "Grand Total."

The figures in the "Per Cent" column were computed by me and represent the per cent of the various items of sources of funds to the "Grand Total" of funds used in the particular year in the business.

The second "Per Cent" column contains the per cents of the various items of dividends, interest and amortization charges to the "Grand Total" of such charges during each of the years.

The line "Total" immediately preceding "Grand Total" represents the sum of the items designated as "Funded Debt," "Loans from Associated Companies, Loans from Bankers and Notes Payable to Pension Fund Trustees," during each of the years 1920 to 1930, inclusive, and the per cent that the total of these items bears to the "Grand Total."

Exhibit X-109, entitled "A. T. & T. Co.—Computation of Annual Cost of Furnishing Telephone Instruments to Chicago Division of Illinois Bell Telephone Company, Year Ended December 31, 1923,"—was prepared by me or under my 4742 direction.

The figure under "Totals all Licensees"—10,030,484—was computed from a sheet entitled "Average Number of Stations in service for each company receiving the license contract services, years 1923 to 1930, inclusive."

The figure 660,927 was also taken from the same sheet furnished by plaintiff.

The third line, "Per Cent Chicago Division"—6.589 per cent—is a mathematical calculation of the relation of 660,927 to 10,030,484.

The figure $31,329,013, representing the American Telephone & Telegraph Company's average investment in telephone instruments, was taken from X-103; and the amount of $2,064,269 represents the Chicago proportion, using the percentage shown above.

The average depreciation reserve, $14,971,542, was com-

puted from D 100 and computed on the basis of the average of the balances for the beginning and ending of each year. The portion of depreciation reserve shown in the last column under Illinois Bell—Chicago Division—is the result of applying the percentage 6.589.

The average investment in telephone instruments, less average depreciation reserve, $16,357,471, for all licensees, and $1,077,794 for Illinois Bell Telephone Company—Chicago Division—represents the average investment computed in the manner already described, less the average depreciation reserve also computed in the manner described. This is the same basis of determining the investment in telephone instruments as used by Mr. Heiss in Exhibit A-166.

The figure $74,044 represents the return on the average investment in telephone instruments less depreciation reserve at the same rate which Mr. Heiss calculated to be the annual cost of the funds for the year 1923, shown in X-108, and which is also used by him in A-166.

Repairs $1,086,422 was taken from X-107, and $71,584 is the portion thereof allocable to Chicago division.

Depreciation Expense $2,133,172 was taken from X-107 and the portion allocable to the Chicago Division is shown in the last column.

4744 Taxes, $54,720, was taken from the books of the Illinois Bell Telephone Company.

Insurance and Contingencies, $21,556, is an amount which has been added to correspond to the estimate which the company used in its set-up of estimated annual charges for the year 1923 at the former hearing, as shown in Rec., Vol. 3, p. 1038.

This Exhibit X-109 shows in the last line that the annual cost of furnishing instruments for the year 1923 was $362,459, which includes all the expenses, such as depreciation, maintenance, taxes, insurance and contingencies, and provides a return on investment equal to the annual cost of funds to the American Telephone & Telegraph Company during the year 1923—such cost of funds being the amount which the American Telephone & Telegraph Company has represented to be the annual amount paid by it currently on funds used in its business which were derived from its funded and other indebtedness and from its capital and surplus, and includes

dividends paid by the American Telephone & Telegraph Company at the rate of 9 per cent.

Exhibit X 110, entitled "Illinois Bell Telephone Co.—Chicago Division Comparison of Company's Tabulation, Record Vol. III, 1038, of Annual Cost of Furnishing Tele-
4745 phone Instruments with Commission Accountants' Computation, as per sheet attached, of Annual Cost of Furnishing Telephone Instruments for the year ended December 31, 1923," was prepared by me, or under my direction.

The figures shown in the first column entitled "Com-
4746 pany's Tabulation (Rec., Vol. III, p. 1038)," amounting to $709,007, were taken from the Company's tabulation offered at the former hearing in 1929, being the annual cost of telephone instruments if the Illinois Bell had owned the instruments in that year.

The first column represents the showing by the Illinois Bell at the former hearing of what the annual cost would be on the basis of the Illinois Bell purchasing the telephone instruments in the year 1923. The figures shown in the second column, entitled "Commission Accountants' Computation, as per X-109," represent a reproduction of the annual cost as shown in X-109. They are the same figures as were shown in the preceding exhibit. The figures in the third and fourth columns represent the amount and per cent of excess of Company's tabulation over Commission Accountants' Computation.

Exhibit X-110 shows that the Company's tabulation used for the average investment in telephone instruments in the Chicago area was $3,494,271; that the American Telephone & Telegraph Company's actual investment, as shown
4748 in the Commission Accountants' computation per X-109 for these same telephone instruments was $2,064,269; and that the Company's tabulation of what the investment would have been if the Illinois Bell were the owner of the instruments purchased in that year of them exceeded the American Telephone & Telegraph Company's actual investment in such instruments by $1,430,002 or 69.27 per cent excess.

The figures in the first line are on the basis of comparison of undepreciated investment on the books of the American Telephone & Telegraph Company, in the second column, with

the Illinois Bell's presentation of the cost—what the cost would have been if purchased in the open market, that is before depreciation.

The second line shows that the Company's tabulation in 1923 did not include any depreciation for the telephone instruments at all but considered that the instruments which would be in use in that year would be new instruments purchased in the open market.

4749 The amount of $986,475 is the portion of the depreciation reserve shown on the books of the American Telephone & Telegraph Company, allocable to its investment in telephone instruments in that year in use in Chicago, making a net investment of $1,077,794, as compared with the Company's tabulation of $3,494,271. When I say "Company's tabulation," I mean the Company's tabulation of what the investment would have been on the basis of its purchase,—that is $3,494,271 as per the company's tabulations as compared to the American Telephone & Telegraph Company's investment after depreciation reserve of $1,077,794.

The Company's investment figure is $2,416,477 in excess of the American Telephone & Telegraph net investment, or an increase of 224.21 per cent, all as shown in the third line. The figure $279,542 represents the number of dollars resulting from the Company's calculation of 8 per cent return on investment.

4750 The figure $74,044 is the return on investment to the American Telephone & Telegraph Company based upon the annual cost of funds of 6.87 per cent, as shown in X-108. The amount of $205,498 represents the excess of the return on investment as computed by the Company's tabulation at the 1929 hearings over the return on investment to the American Telephone & Telegraph Company based upon its annual cost of funds, or an excess of 277.53 per cent.

The figures for repairs, depreciation, taxes, insurance and contingencies shown under heading "Exesss of Company's Tabulation over Commission Accountants' Computation" represent the subtraction of column 2 from column 1 and the per cent of excess of column 1 over column 2.

4751 The line "Total Annual Cost of Furnishing Telephone Instruments," shows that on the Company's Tabulation at the 1929 hearings the annual cost is computed at $709,007, and the computation made on the basis of the actual invest-

ment of American Telephone & Telegraph Company in telephone instruments, results in an annual cost of $362,469, including therein a return on investment at the rate of the annual cost of funds, which would produce an excess annual cost for the year of $346,548, or 95.61 per cent in excess of the cost shown in X-109. That is, the $709,007 which the Illinois Bell at the former hearing said would be the annual cost if it were the owner of the instruments, compares with $362,459 which was the actual annual cost to the American Telephone & Telegraph Company for those instruments in that year based upon a return to it of 6.87 per cent, enough to take care of its carrying charges, and the 9 per cent dividend allocable to that investment—and left an excess of $346,548.

4752 The figures designated as "Average Cost of Furnishing Instruments per Telephone Station in Service" are the annual costs expressed in dollars per station, showing $1.07 per company's tabulation in 1929, 55 cents per tabulation in X-109, and resulting in an excess, on the Company's tabulation, of 52 cents per station. That is the Company's presentation in 1929 was $1.07 per station, and the American Telephone & Telegraph Company's actual experience was 55 cents per station.

The figures opposite the line "Average Investment in Telephone Instruments per Telephone Station in Service" show that on the Company's tabulation the average investment per station was $5.29, before depreciation, and the tabulation in X-109 shows the investment to be $3.12, resulting in an excess of the Company's computation of $2.17 per station.

4753 On the basis of the American Telephone & Telegraph Company's actual investment less depreciation reserve, the figure is $1.63 per station. The Company's tabulation shows an excess investment of $3.66 per station. That is, the Company's figures in 1929 used as a basis an investment of $5.29 per station, and the American Telephone & Telegraph Company's actual investment was $1.63 per station.

4754 Exhibit X-111, is entitled "A. T. & T. Co.—Amount of Return on Investment in Telephone Instruments shown by Company's tabulation—Rec., 1038—related to amount of investment in telephone instruments shown by Commission Accountants' computation during year ended December 31, 1923."

4762 Item 1, "Average Investment in Telephone Instruments less depreciation," amount of $1,077,794 was taken from X-110. Item 2, "Return on Average Investment at Rate of Cost of Funds," 6.87 per cent, was taken from X-110.

4763 Item 3, "Additional Profit to American Telephone & Telegraph Company for corporate surplus," was taken from X-110, and represents the excess of the return on the basis of the Company's tabulation in 1929, over the cost shown in X-109.

Item 4 is the total of Items 2 and 3 and shows that the total return to the American Telephone & Telegraph Company on its net investment resulting from the Company's tabulation of annual cost of $709,007 would be $420,592, which is 39.02 per cent on what its net investment was in the year 1923.

Item 6 shows that the figure of 39.02 per cent on its investment in telephone instruments results in a return to the American Telephone & Telegraph Company's stockholders on their proportionate stock investment of 59.53 per cent after taking care of interest on funded debt, and amortization charges.

In the M. R. reports 1, 22-A, 22-B, C. R. 51-A, 53, 67, 67-B, 76 and 97, in Provisional Estimate Statement E, in Annual Report to Stockholders of the American Telephone & Telegraph Company and in Bell Telephone Securities Manuals used by the American Telephone & Telegraph Company, I found a showing of return on capital stock similar to the return that I have expressed in the percentage 59.53.

4764

In Exhibit X-112, entitled "A. T. & T. Co.—Per Cent of Return on Investment in Telephone Instruments used by the Illinois Bell Telephone Company, Chicago Division, per Exhibit A-200"—that is Plaintiff's Exhibit A-200 in this hearing—"Fair Allowance for Telephone Instruments in Chicago Division (Exhibit A-163), Less Costs already included during Years 1923 to 1927, inclusive (Costs shown in Exhibit A-170)," Item 1, under "Net Investment in Telephone Instruments, American Telephone & Telegraph Company," was taken from Plaintiff's Exhibit A-166.

Item 2, "Investment Allocated to Long Lines," was computed from A-166, using the percentages shown therein.

4765 Item 3, "Investment of Associated Companies" represents Item 1 minus Item 2.

Item 4, "Investment Allocated to Chicago Division," was computed from A-166 on the basis of percentages therein.

Item 5, "Return on Investment, Chicago Division," was taken from A-166 and is the return on investment at the rate of annual cost of funds to the American Telephone & Telegraph Company, which rate is shown on Line 6, and includes the payment of a dividend of $9 per share on the capital stock after taking care of interest and amortization charges.

Item 6—"Per cent of Return on Investment, Chicago Division," is at the annual rate of cost of funds taken from A-166.

Item 7 is the amount of dollars of additional return in excess of the return equal to the annual cost of funds which is included in the amount of fair allowance on telephone instruments in A-200, as claimed by Mr. Heiss.

Item 8 is the per cent of additional return on invest-
4766 ment represented by additional return shown in line 7.

Item 9 shows the total number of dollars return included in the computations in A-200 of fair allowance on telephone instruments.

Line 10 shows that the amount of return included as part of the fair allowance on telephone instruments by Mr. Heiss, results in a return in the year 1923 on the net investment of the American Telephone & Telegraph Company of 20.40 per cent; in the year 1924, 20.80 per cent; in the year 1925, 20.20 per cent; in the year 1926, 18.34 per cent; and in the year 1927, 17.31 per cent.

4767 I will explain what I mean by the words in Item 7; "Additional Return on Investment." Exhibit A-200, Item D, Line 2, refers to fair allowance for telephone instruments in the Chicago Area, Exhibit A-163, less costs already included in Item B above. For the year 1923 that amount is $145,625. This figure is from the exhibit offered by Mr. Heiss, designated as A-200. Now in another exhibit that Mr. Heiss offered, Exhibit A-163, he computed the cost of furnishing the telephone instruments. The "Investment" referred to in
4768 Exhibit X-112 is the allocated proportion of book investment of the American Telephone & Telegraph Company, less the average depreciation reserve shown on its books.

4769 "Judge Wilkerson: Why do you call it a return?

Mr. Goldstein: I will explain it, if your Honor please. When Mr. Heiss was on the witness stand, if your Honor will recall, I asked Mr. Heiss this question:

'If you add $145,000 in that column, Fair Allowance to the amount you already show in A-163, which itself included a return on the investment of 6.87, how much would the entire amount be, available for return on the investment in telephone instruments?'

And he said: 'I could not figure it out mathematically.'

4770 Judge Wilkerson: And so you have had it figured out.

Mr. Goldstein: We have had it figured out.

Mr. Blackman: So that your Honor may understand the whole thing, Mr. Heiss proceeded to build up his costs, which he said was the actual cost of the operations on the license contract. In that, he found that the instruments had cost so much, and that there had been so much of reserve set aside. He deducted the reserve from the original cost, and he said, the American Telephone & Telegraph Company has that much investment today in those instruments, or it did in 1923 to 1927.

Then he took a rate of the cost of money, and he applied it to that balance of investment. Now, he says that is what it cost the American Telephone & Telegraph Company, as a minimum, or any principle. But, he says, if we are determining whether that is a fair contract or not, on any basis, the American Telephone & Telegraph Company would be entitled to charge for those instruments precisely what the Illinois

4771 Bell did.

Judge Wilkerson: The term 'return' does not refer to any actual return.

Mr. Blackman: No, and it is very misleading.

Judge Wilkerson: And the term "investment" refers to no actual investment.

Mr. Blackman: That is correct.

Judge Wilkerson: You mean, then, this is an exhibit which you propose to use, when you come to discuss Mr. Heiss' testimony?

Mr. Goldstein: That is correct.

Judge Wilkerson: All right.

Mr. Goldstein: That is correct, to show what it would lead to."

(Statement by Mr. Goldstein.)

4773 "Exhibit X-113, entitled 'A. T. & T. Co.—Percent of return on investment in telephone instruments used by Illinois Bell Telephone Company, Chicago Division, if total return is reduced by amount of taxes on instruments during years 1923 to 1927 inclusive' is the same as X-112, but gives credit for taxes for which the American Telephone & Telegraph Company reimbursed the Illinois Bell, and which Mr. Heiss did not put in, in his exhibit, either by oversight or otherwise, and reduces the amount of that return by that amount."

(Witness continues.)

4774 Exhibit X-114 entitled "A. T. & T. Co.—Percent of return on investment in telephone instruments used by Associated Companies, per Exhibit A-198, 'Fair Allowance for Telephone Instruments, Exhibit A-202 less costs shown in Exhibit A-170,' years 1923-7" was prepared in exactly the same manner as X-112 excepting that it covers the return to the American Telephone & Telegraph Company on its net investment in telephone instruments held for the Associated Companies, resulting from the fair allowance which Mr. Heiss claimed in Exhibit A-198.

4779 Line 9 shows per cent of total return on telephone instruments investment in Associated Companies (Item 8 divided by Item 3), for the year 1923, 21.17 per cent; for the year 1924, 21.23 per cent; for the year 1925, 21.03 per cent; for the year 1926, 19.27 per cent; and for the year 1927, 17.82 per cent.

Item 7, Exhibit X-112, is called "Additional Return" because in Exhibit A-163, an amount of return had already been allocated at the rate of the cost of funds, amounting to $73,948; so this is an additional return on investment.

The last line merely converts those returns to a return on capital stock.

In Exhibit X-115, entitled "A. T. & T. Co.—Comparison
4780 of claims of Plaintiff for return on investment in Telephone Instruments used by Ill. Bell Tel. Co.—Chicago Division—with A. T. & T. Co.'s actual experience for year

ended December 31, 1923," the figures shown in column A designated as "Presentation during the year 1929, Rec., Volume 111, page 1038" were taken from the record page designated at the heading of the column.

4781 "Judge Wilkerson: All you have to do is to have him say he got the figures from the sources stated in the exhibit and that the computations in his opinion are correct. These exhibits seem to be plain and explain exactly where the figures came from."

4782 I think the sources from which the figures in X-115 were taken are all shown on the face of the exhibit, and, in my opinion, the computations are correct.

In Exhibit X-116, entitled "A. T. & T. Co.—Profit of
4783 Furnishing Telephone Instruments to Chicago Division, Illinois Bell Telephone Company, on Basis of Annual Allowance of $1.13 per Station made by Public Utilities Commission in Order of December 20, 1920," the figures Average Stations in Service, for all licensee companies, and the total for the Illinois Bell Telephone Company, Chicago Division, were taken from the sheet furnished us by the company, showing the average number of stations in service.

4784 Exhibit X-116 is prepared in a similar manner to X-109, and the sources are the same.

In X-117, entitled "A. T. & T. Co.—Computation of Annual Cost of Furnishing Telephone Instruments to Chicago Division of Illinois Bell Telephone Company, Year ended December 31, 1920," the sources for the figures are the figures furnished by the Company, or the Public Utilities Commission order itself. The computations in my opinion are correct.

The sources for Exhibit X-118, entitled "A. T. & T. Co.—Percent. of Return on Investment from Furnishing Telephone Instruments to Chicago Division of Illinois Bell Telephone Company on Basis of Annual Allowance of $1.19 per Telephone Station made by Public Utilities Commission in Order of December 20, 1920, during year ended December 31, 1920," are the same as for Exhibit X-117, and in my opinion the computations are correct.

In Exhibit X-119, entitled "A. T. & T. Co.—Percent. of Excess of Average Current Cost of Telephone Instruments used by Illinois Bell Telephone Company, Chicago Division, shown by Plaintiff's Exhibit A-163, over Book Cost computed from Plaintiff's Exhibit A-166, during years 1923 to 1927, inclu-

sive," the sources are indicated either in the body or in the heading of the exhibit. I think the computations are self-explanatory.

The working papers have been available to the plaintiff
4785 at all times.

In Exhibit X-120, entitled "A. T. & T. Co.—Percent. of excess of Average Current Cost of Telephone Instruments used by Bell System shown by Defendants' Exhibit 122 over Book Cost shown by Plaintiff's Exhibit A-166, during years 1923 to 1927, inclusive," the sources are explained either in the body of the exhibit or in the heading.

The computations are, in my opinion, correct, and the working papers have been made available to the plaintiff.

In Exhibit X-121, entitled "A. T. & T. Co.—Percent. of Relationship of Book Value of Investment in Telephone instruments to Depreciation Reserve for Telephone Instruments, Compared with Percent. of Depreciation deducted from Book Cost or Current Value New as the Basis for Sale to Long Lines and to Licensee Companies, as of Dec. 31, 1927," the figures were taken from Exhibit D-100, and the computations, in my opinion, are correct.

The last column shows the per cent of depreciation deducted from the book value, in the case of the various classes of
4786 telephone instruments, and the effect of the sale of telephone instruments, and the clearance through the depreciation reserve.

Exhibit X-122 is entitled "Investments in capital stocks of licensee companies, Dec. 31, 1919 to 1930 inclusive." It shows the par value of the American Telephone & Telegraph Company stockholdings in each of the licensee companies in the United States as of December 31st of each year, 1919 to 1930, inclusive, and shows under each company on the first line the American Telephone & Telegraph Company holdings,—par value; second line, American Telephone & Telegraph Company holdings, book value; and third line, per cent of American Telephone & Telegraph Company ownership in the stockholdings of each of the Licensee Companies, such per cent being the result of the ownership held directly in this company or through the stock of other subsidiaries which is owned by the controlling company.

4787 The figures in the first two lines in the case of each company show the direct stockholdings of the American Tele-

phone & Telegraph Company. As shown in the note on the last page of this exhibit, unless otherwise specified, all of the American Telephone & Telegraph Company holdings refer to common stock.

The figures shown in Exhibit X-122 were all taken from the Annual Reports of the American Telephone & Telegraph Company to the Illinois Commerce Commission.

Exhibit X-123 is entitled "Dividend rates of Licensee Companies, during years 1914-1930," inclusive. All of the figures shown in this exhibit were taken from the annual reports of the American Telephone & Telegraph Company to the Illinois Commerce Commission and its predecessor, the Illinois Public Utilities Commission.

4788 Exhibit X-124, entitled "Capital Stockholdings in Licensee Companies showing dividend rates and yields thereon, years 1920-1930, inclusive," shows, during each of the years, the average American Telephone & Telegraph Company stockholdings—par value; the average American Telephone & Telegraph Company stockholdings—book value; the dividend rate on the average American Telephone & Telegraph Company stockholdings—par value; and the yield to the American Telephone & Telegraph Company on average stockholdings—book value. Item 1 was computed, in the
4789 case of all companies, paying dividends during the period, by dividing the total dividends paid by the dividend rate, with proper adjustment when the dividend rate was changed during the year. In the case of the companies paying no dividends during the year, the average par value was determined by an average of the balances at the beginning and end of the year.

Item 2 shows the average book investment in the stocks of the Licensee Companies, and reflects the variations from the par value to the extent that the book investment of the American Telephone & Telegraph Company in such stock differs from the par value of such stock.

The figures in Line 3 represent the dividend rate on the par value, and the figures in Line 4 represent the conversion of the dividend rate to the rate based on the American Telephone & Telegraph Company's investment in the stock shown in Item 2.

The figures in X-124 were all computed from X-122, and

X-123, and the working papers used in connection with
4790 these other two exhibits.

No computation has been made for the year 1931.

Exhibit X-125, entitled "Dividend Rates on Investments in Capital Stocks of Licensee Companies, years 1920-1930, inclusive," was taken from Exhibit X-124. The computations in lines "Average dividend to American Telephone & Telegraph Company on par value of stockholdings in Licensee Companies," and "Par Value of stockholdings in Licensee Companies, exclusive of Illinois Bell Telephone Company," are in my opinion correct.

In Exhibit X-126, entitled "Dividend Yields on Investments in Capital Stocks of Licensee Companies, years 1920-1930, inclusive," the figures for each of the companies were taken from X-124. This exhibit shows the yield on the actual investment in Illinois Bell Telephone Company, and in the bal-
ance of the System, resulting from dividend rates paid
4791 on the stock held by the American Telephone & Telegraph Company in these various companies.

Exhibit X-127, entitled "Average return to A. T. & T. from Dividends on its Investments in Capital Stocks of Licensee Companies converted into average return to Stockholders of A. T. & T. on their investments in capital stock of A. T. & T. during years 1920 to 1930, incl.," converts the yield to the American Telephone & Telegraph Company from dividends on its investment in the Associated Companies, into average return to stockholders on their investment, in a manner similar to the one I have already described.

In Exhibit X-128, entitled "Profit on investment in capital stocks of Licensee Companies during years 1920 to 1930, incl.," the figures were computed from X-126 and X-108, and the computations are all in my opinion correct, and the working papers have all been made available to the plaintiff.

In Exhibit X-129, entitled "Ratio of capital stockholdings in Ill. Bell to capital stockholdings in all Licensee companies; ratio of profit on stockholdings in Ill. Bell to profit on stockholdings in all Licensee Companies and Percentages of Profit on stockholdings during the years 1920 to 1930, incl.," the figures shown in Lines 1, 2 and 3 were taken from X-124; Lines 4, 5 and 6, from X-128; and Lines 7, 8, 9, 10 and 11
are computations made from these figures and in my
4796 opinion are correct.

The significant lines on this exhibit are Lines 7 and 8; Line 8 is the ratio of profit or amount carried to surplus of the American Telephone & Telegraph Company from its investment in the stock of the Illinois Bell Telephone Company, to its total profit on stockholdings in all licensee companies.

Lines 7 and 8 show the extent to which the per cent of investment in Illinois Bell and the balance of the System, contributed toward the corporate surplus of the American Telephone & Telegraph Company in the particular years indicated.

In Exhibit X-130, entitled "Amounts Required in Order
4797 to Receive the same percent. of return on investment in capital stock of each licensee company as received from investment in capital stock of Illinois Bell Tel. Co. during years 1920 to 1930, incl.," the sources of the figures are Exhibits X-124 and X-128. The exhibit shows the amount in dollars required in order that the American Telephone & Telegraph Company should receive the same per cent return on its investment in the capital stock of each licensee company as it received from its investment in the capital stock of the Illinois Bell during each of the years 1920 to 1930. The figures and the computations are all self-explanatory.

Exhibit X-131, entitled "Losses on Loans to Licensee Companies pro-rated between companies, years 1920-1930, incl.," apportions among the various licensee companies, the losses on loans made to the Bell System, which Mr. Heiss has included in his exhibits as losses to the American Telephone & Telegraph Company, as part of the cost of the license contract.

4798 The working papers and the method of computation in connection with this have been made available to the plaintiff.

Exhibit X-132, entitled "Profit or Loss on Investments in Licensee Companies, years 1920-1930, incl.," shows the combined return to the American Telephone & Telegraph Company from its investment in each of the Licensee companies, both from stock and from loan investments, and shows the extent to which the combined return exceeded or failed to meet the annual cost of funds to the American Telephone & Telegraph Company during the particular years.

The figures in this exhibit, as to the stockholdings, are taken from Exhibit X-128, and the figures for the loans are taken

from Exhibit X-131. The computations are, in my opinion, correct.

Exhibit X-133, entitled "Average return from Dividends and Interest on investments (stocks and loans) in Licensee Companies during years 1920 to 1930, incl.," shows the average return on combined investment of the American
4799 Telephone & Telegraph Company from stocks and loans of each of the licensee companies, including the Illinois Bell, and from all of the licensee companies exclusive of the Illinois Bell. In my opinion the computations are correct.

Exhibit X-134, entitled "Average return to A. T. & T. from Dividends and Interest on its investments (stocks and loans) in licensee companies, converted into average return to stockholders of A. T. & T. on their investments in capital stock of A. T. & T. during years 1920 to 1930, incl.," converts the per cent of return on investment to per cent of return to the stockholders of the American Telephone & Telegraph Company in a manner similar to the one that I have already described, as shown in the reports of the American Telephone & Telegraph Company and as stated before.

Exhibit X-135, entitled "A. T. & T. Ratio of Capital Investment in Illinois Bell to capital investment in all licensee companies; ratio of profit on capital investment in Ill. Bell to profit on capital investment in all licensee companies and percentages of profit on investment during years 1920 to 1930, inclusive," was prepared from X-132 and shows the extent to which the return to the American Telephone & Telegraph Company from its investment in the Illinois Bell, contributed towards its surplus, compared to the return to the American Telephone & Telegraph Company from the other licensee companies, during each of the years 1920
4800 to 1930, inclusive, and shows the ratio of the amount of its holdings in stock or loans of the American Telephone & Telegraph Company in the Illinois Bell to that of the balance of the System. The computations are all computations that I have made myself, and in my opinion they are correct.

4801 (Exhibits X-136 to Exhibit X-143, inclusive, offered in evidence.)

Exhibits X-136 to X-143, inclusive, entitled, respectively, as follows: "X-136—Percentage relationships of average in-

vestments in capital stocks of licensee companies and in loans to licensee companies to total average investments (stocks and loans) in licensee companies, years ended Dec. 31, 1920 to 1930, inclusive.

X-137—Amounts required in order to receive the same percent. of return on investment (stock and loans) in each licensee company as received from investment in Ill. Bell during years 1920 to 1930, inclusive.

X-138—A. T. & T. Co.—Losses on Holding Funds Available to meet cash requirements of Licensee Companies Pro-rated between companies on basis of estimated annual requirements years 1920 to 1930, inclusive.

X-139—American Telephone & Tel. Co.—Cost of Furnishing Telephone Instruments to Licensee Companies Year ended December 31, 1920 to 1927, inclusive.

X-140—A. T. & T. Co.—Cost of Other Services Performed under License Contract Pro-rated to Licensee Companies on Basis of License Payments, Years 1920 to 1930, inclusive.

Departmental costs incurred in rendering Licensee Contract Services, during years 1920 to 1930, incl.

X-141—American Tel. & Tel. Co.—(1) Estimate of Costs Incurred in Rendering License Contract Services; (2) Amounts received for License Contract Services Years 1919 (5 months) to 1922.

X-142—A. T. & T. Co.—Separation of the Licensee Payments of each Licensee Company into Component parts of cost and profit, years ended December 31, 1920 to 1930, inclusive.

X-143—A. T. & T. Co.—Items shown in Exhibit Reduced to Per Cents of the License Payment and to amounts per Telephone Station, Years ended Dec. 31, 1920 to 1930, inclusive," either show on their faces or the working papers which have been submitted to the plaintiff show the sources of the figures, and the basis of the computations.

(June 13, 1932.)

4805 The Company's showing of income in Exhibit A-53 de-
ducted Federal Income Tax for each year. I have com-
4806 puted the saving in income tax which would have re-
sulted to the Illinois Bell for the years 1923 to 1930, on the basis of the Illinois Bell being financed in the same ratio

of loans and stock as that which prevailed in the balance of the Bell system as shown in X-136. The amounts of such savings are as follows:

Year	Entire Company	Chicago Division
1923	$77,306	$50,875
1924	107,336	71,196
1925	104,982	69,844
1926	57,413	38,185
1927	79,576	52,528
1928	62,743	41,473
1929	36,026	23,586
4807 1930	134,673	87,079

This saving would be due to the fact that as the loans to the Illinois Bell increased to equal the average of the System, there would be more interest to deduct for purposes of Federal income tax computations. I have the working papers from which these computations were made and the plaintiff may examine them.

Exhibit X-138 shows the distribution of the losses between the various licensee companies, and I took the figures from CR 13. The exhibit does not make any apportionments on the basis of the purpose for which the moneys were held 4808 in relation to stocks and bonds. I just lumped those together.

With reference to Exhibit X-142, I used a different method of allocating losses on holding funds to meet the cash requirements of the licensee companies, as indicated in Item 6 of Exhibit X-142, than Mr. Heiss did in Exhibit A-169. Mr. Heiss allocated the losses sustained in connection with holding funds available for the Chicago area on the basis of a composite ratio using the bases of estimated cash requirements, plant and gross additions.

In making my allocations of Item 6, in my Exhibit X-142, I have used as a basis the estimated cash requirements of the licensee companies only. The sources of information used by the plaintiff were the M. R. and C. R. Reports, indicated 4809 in D-118; also the C. R. 13 Reports, and the Provisional Estimates. Of these reports only the C. R. 13's were available to us prior to the trial and prior to the offering of the A-exhibits. We used the C. R. 13 reports in allocating the losses on holding funds available. I included Item 2 in

Exhibit X-142 because in all documents sent to us prior to the trial, Mr. Heiss included within the license contract costs, losses to the American Telephone & Telegraph Company on holding funds for the purchase of stock and for the making of loans, and losses to the American Telephone & Telegraph Company incurred in connection with loans to the licensee companies, but Mr. Heiss did not show the profits to the American Telephone & Telegraph Company while holding
4810 the stock, nor did he take into account any inequality as between the licensees as to the per cent of return paid to the American Telephone & Telegraph Company for moneys furnished in the form of stock and loans resulting from a difference in the dividend rates on the stock or through a difference in the proportions of stock and loan moneys furnished to the licensee companies.

In our exhibits, we have taken into account the losses on loans, losses on holding funds available for stock and loans and have also taken into account the difference in the dividend rates and ratio of loans and stock purchases as between licensees on the basis of the Illinois Bell Telephone Company's return to the American Telephone & Telegraph Company.

The differences, from an accounting standpoint, between the A-exhibits offered at the final hearings on the license contract, and the exhibits which were furnished to us prior to the trial, as bearing upon the license contract are as follows:

4811 First, in the exhibits sent to us prior to the trial there was no separation of costs or expenses incurred chargeable to the license contract payments for the long lines; instead, the costs allocable to services of the long lines and to the licensees were treated as a unit, but there was added to the revenues from the license contract an amount of revenue as coming from the Long Lines Department.

Second, in the exhibits sent us prior to the trial there was a lump sum deduction from all of the expenses represented to have been incurred in connection with the license contract to represent the amount allocable to holding company operations. In the Heiss exhibits there is a detailed separation for each of the classes of services.

Third, in the papers sent us prior to the trial, there was no allocation to the Chicago Area; nor was there any alloca-

tion made to the Illinois Bell in any of the exhibits sent us prior to the trial, nor was there any statement made prior to the trial, nor was there any indication given that the Chicago Area would not be charged with losses on loans which Mr. Heiss' exhibits sent us showed were made to the 4812 Illinois Bell; and we were advised that the allocation to the Chicago Area would be made at the trial and the method explained at that time.

Fourth, the documents which they sent us showing the allocation made to the Ohio Bell showed a basis of allocation on an entirely different basis than the one they used at the trial.

(Exhibit X-144 offered in evidence.)

Exhibit X-144, entitled "A. T. & T. Co.—Per Cents of Licensee Payments Available for Corporate Surplus (For Profit After Payment of Dividends, Interest, and Amortization Charges) during years 1920 to 1930, inclusive," was prepared from X-142. This exhibit excludes from consideration the equalizing factor of the return from stock and loans, which is Item 2 of X-142, because that factor is considered in a later exhibit. Excepting for that, it takes X-142, and shows the result.

Exhibit X-145, entitled "A. T. & T. Co.—Return on Investment from License Contract Operations with Various Licensees during Years 1920 to 1927, inclusive," was taken from X-142, X-103, D-116 (which is Heiss' Exhibit No. 10 in the Ohio case) and from the statements furnished by the company for the years 1920 to 1922, which are similar 4813 to D-116.

The investment was set up to correspond to the item of expense set forth in X-142, such items being the loans to the licensee companies, the proportion of funds held available for the licensee companies, the investment in telephone instruments and the investment in miscellaneous property. The allocations between the companies were made on the same basis as X-142.

The items of return on investment are the same as Mr. Heiss used in Exhibit X-104. In my opinion, the computations in the exhibit are correct.

Exhibit X-146, "American Tel. & Tel. Co.—Return from License Contract Operations with Ill. Bell Tel. Co. in Excess of the Average Return from License Contract Operations with *Other* Licensee Companies during years 1920 to 1927,

inclusive," was prepared from X-145 for the years 1920 to 1927, inclusive, and from X-142 for years 1928, 1929 and 1930. The comparisons for the years 1920 to 1927 were prepared somewhat differently than for the years 1928 to 1930, inclusive.

4814 During the years prior to 1928, there were amounts available for additional return on investment to the American Telephone & Telegraph Company from the license payment after charging thereto the various amounts allocated in respect to each company. The excess of return on the investment in Illinois Bell for such additional amounts over the corresponding return on investment of the other licensees is shown in Item 6 of X-146.

During the years 1928, 1929 and 1930, there were no amounts left over from the license payments after pro rating the costs between the various companies.

In those years our Exhibit X-142 shows that the license payment was not sufficient to take care of all of the items of cost.

In comparing the showing of the Illinois Bell with the other licensee companies for these years, after charging against the license payment the losses on the loans and the losses on holding funds available, we computed the difference between the amount left over from the license payment to meet the

4815 cost of other services in the case of the Illinois Bell and that of the other licensees.

Exhibit X-147, entitled "A. T. & T. Co.—Return from License Contract Operations under Present rates and under Attacked Rates with Illinois Bell Tel. Co., Chicago Division, in Excess of the Average Return from License Contract Operations, with *Other* Licensee Companies, during years 1923 to 1930, inclusive," was computed from X-146, Exhibit A-52, and from an exhibit which will be offered by Mr. Cummings on interstate separation.

In Exhibit X-148, entitled "A. T. & T. Co.—Separation of the License Payments of Illinois Bell Tel. Co., Chicago Division, of other Licensee Companies (including Ill. Bell Tel. Co., exclusive of Chicago Division) and of Long Lines Department, into Component Parts of Cost and Profit Based on Plaintiff's Exhibit A-170 and Underlying Exhibits Referred to therein, during years 1923 to 1931, inclusive," the item of license payment was taken from A-53 and D-116, while the re-

maining items were taken from A-170 and the underlying exhibits referred to therein.

The figures shown in X-149, entitled "A. T. & T. Co.—Return of Investment from License Contract Operations with Illinois Bell Telephone Co., Chicago Division, with other Licensee Companies (including Illinois Bell Tel. Co., exclusive of Chicago Division); and with Long Lines Department, Computed from Plaintiff's Exhibit A-170 and underlying exhibits referred to therein, during years 1923 to 1927, inclusive," were prepared from A-170 and underlying exhibits. In Exhibit A-170, Mr. Heiss shows the losses on loans but did not show the amounts of the loans which we took from Exhibit X-103.

Exhibit X-150, entitled "A. T. & T. Co.—Return from License Contract Operations with Ill. Bell Tel. Co., Chicago Division, in excess of the Average Return from License Contract Operations with *Other* Licensee Companies (Computed from Plaintiff's Exhibit A-170 and Underlying Exhibits referred to therein), during years 1923 to 1931, inclusive," was computed from X-149.

Exhibit X-151, entitled "American Telephone and Telegraph Company—Return from License Contract Operations under Present Rates and under Attacked Rates with Illinois Bell Telephone Co., Chicago Division, in Excess of the Average Return from License Contract Operations with *Other* Licensee Companies (Computed from Plaintiff's Exhibit A-170 and Underlying Exhibits Referred to therein) during Years 1923 to 1931, inclusive," was prepared from X-150, Plaintiff's Exhibit A-52, and exhibit to be offered by Mr. Cummings and is similar to X-147.

Exhibit X-152, entitled "A. T. & T. Co.—Composite of 4816 Estimated Requirements, Plant Investment and Gross Additions—Percent. Long Lines of Associated Operating Companies and Long Lines (Basis of Plaintiff's Exhibit A-169), 1923-1931. Estimated requirements (as shown by work sheets of Plaintiff's Exhibit A-169), 1923-31," consists of the work sheets of Plaintiff's Exhibit A-169, which were furnished by the plaintiff.

The sources for the figures shown in Exhibit X-153, entitled "Ill. Bell Tel. Co.—Comparison of Cash Payments to Western Electric Company with Cash obtained in stock and loans from American Tel. & Tel. Co. Years 1923 to 1930, inclusive," are clearly set forth on the face of the exhibit.

As to all of my exhibits, in my opinion, the computations set forth, and the results which are set forth in those exhibits, are all correct. Generally as to all of my license contract exhibits thus far they have not concerned themselves with the question of whether any amounts charged in the license contract were proper, or whether the amounts as charged were proper operating charges. My exhibits merely concern themselves with the distribution of the license payments, and the license contract costs, as represented by plaintiff, between the various licensee companies.

(Exhibits identified by Mr. Rainwater, X-103 to X-153, inclusive, offered in evidence subject to cross-examination.)

(Cross examination reserved.)

4817 CYRUS G. HILL, called as a witness on behalf of the defendants, having been first duly sworn, testified as follows:

Direct Examination by Mr. Goldstein.

(June 13, 1932.)

I am the Mr. Hill who previously testified in this case. My experience and qualifications were then stated. I have made an investigation of the methods used by Mr. Turner
4818 and testified to by him in this case in connection with depreciation. In the determination of the average life of various classes of plant as set forth in Turner's Exhibit A-128, I am familiar with the method used by Mr. Turner in determining the average lives of Central office equipment and buildings.

Referring to Table 5 of Exhibit A-128, the table on which Turner shows the method of determining the average life of all the equipment in a given Central office up to the time of the final retirement of that office, that computation is made on a group basis.

Where there are a number of items in an account, or in a class of plant which is depreciating, I would define a group basis as that basis which gives a uniform depreciation rate, which, when applied to the book costs, or to the investment,

each year will exactly retire or amortize that investment at the end of the life of the group. A unit basis I would
4819 say was one where a depreciation rate was applied to each unit, which would exactly amortize that unit during its life. It will differ considerably from the group basis in many cases.

I am dealing now with the question of group basis, whatever the investment is. You can take any group, you can take the property now in service as a group; you can take the property now in service plus additions as a group; you can take the property now in service plus the property that was in service in the past, and has been retired, as a group. But the group basis would be one in which a single uniform depreciation rate is applied to whatever investment of that group is in service each year, and you exactly amortize the group at the end of its group life.

4820 Referring to Table 6 of Exhibit A-128, the table showing Turner's method of obtaining the composite average life for the group of the Chicago Central offices from the average lives of the individual offices, I could say that the composite average life is figured on a unit basis.

On Table 6 the Central office is set forth in Column A. Its average life is given, and then the annual requirements are obtained by dividing the investment by the average life for each office, thereby giving the depreciation which will amortize that particular office during its particular life. That is my definition of the unit basis, as opposed to the group basis used in Table 5.

The same thing is true of Table 9 of A-128, relating to the determination of the composite average life of buildings. If the average life of Central office equipment in Table 6,
4821 and of buildings on Table 9, were computed on a group basis as I have defined it, instead of on an individual unit basis, the average life would be longer. In the case of buildings, the difference amounts to about 40 per cent: that is, the life would be about 40 per cent longer if it were figured on a group basis instead of a unit basis. It would lower the depreciation rate approximately 40 per cent. In connection with this question of group and unit lives, or group and unit bases of depreciation, I might make the matter more simple and more understandable by a little illustration. Suppose

you had two items of any kind, say two bicycles, one of
4822 which you know is going to last you two years, and the other one is going to last you four years.

Now, what would you say was the average life of those two bicycles? Well, almost anyone would say it was three years; one is two and the other is four, and the average would be three. But the method that the company uses in computing the average life of buildings and Central Office Equipment, the average life is not three years; it is two and two-thirds years. That is arrived at in this way: Suppose each bicycle is worth $100. The company would say that the bicycle having the average life of two years had an annual requirement of $50 and the bicycle having a life of four years would have a depreciation requirement, annual depreciation requirement of $25. The sum would be $75. The two bicycles cost $200, so the company divides 200 by 75 and gets two and two-thirds years for the average life.

4823 Now, let us just see how that checks up. First, take the average life of three years; you have two bicycles for a period of two years, and we say, the correct average life is three years, which would make a depreciation rate of one-third each year. One-third of $200 each year for two years would be $133. For two years of the four-year period we have an investment of $100, and one-third of $100 for two years will be $67, which added to $133 gives $200, and comes out exactly even.

In other words, you just exactly get back your investment, which is what you want to do. Now, take the average life of two and two-thirds years; you have a depreciation rate for the two years then of three-eighths on $200, which is $150. Then you have the depreciation rate of three-eighths for two years on $100, which is $75, and the sum of the two is $225.

In other words, you get back your $200 investment, and a bonus of $25. The only way that you can make the average life of two and two-thirds years come out right is to say that the depreciation rate on the investment of $200 during the two years that you have it, is three-eighths or $150 as
4824 before; and then say that the depreciation rate on the $100 during the two years you have it, is one-quarter, or $50, which will give you $200. But you have had to change your depreciation rate from three-eighths to one quarter.

I have examined Mr. Turner's method of determining aver-

age life of the class of plant described by him as Group 2, of which mortality studies are made.

The first step in Mr. Turner's method is illustrated on Table 12 of Exhibit A-128, which is a summary of the historical data for the mortality study. Here Turner has a certain amount of plant placed in each year, and a certain amount removed from service in each year. He knows from his study the date at which particular units were placed, and those same units retired, so he is able to spread that through this triangular table, and show in the square opposite each year both the year placed and the year of age,

the plant in service at the beginning of the year, and
4825 the amount retired during the year.

He uses a three-year band representing the plant retired during,—in this case, the three years, 1926, 1927 and 1928. At the bottom of the sheet he gets the total of the plant in service and the plant retired during that three-year period, for plant of each age. He then obtains the retirement rate, or the ratio of plant retired to plant in service for each of those years, and smooths that out by means of a formula, to get a smooth curve, of the form shown on Table 15, which shows the curves for Aerial Cable.

The average life can be obtained from these life curves. And he goes a step further than that, and attempts to make a check of the life curve which he had developed against the result there shown by the company's books.

This is indicated in the case of Aerial Cable on Table 21. In making this check he uses a method as follows: turning

again to Table 12 he adds up all of the requirements in
4826 the three-year band which lie between the heavy zig-

zag lines at the bottom of the table; he adds all of the plant in service; divides the plant retired by the plant in service, and gets a retirement rate obtained from the mortality table. He then takes the retirements for three years from the books—they are the three years 1926 to 1928—takes the book cost, the sum of the book cost at the beginning of those years, divides one by the other and obtains a retirement rate from the books.

By the use of a formula he adjusts the book retirement—rather, adjusts the life curve to the book mortality rate. In Table 21 at the bottom of the page he shows the average

ratio of plant displaced to plant in service January 1st, a ratio from the mortality table, a corresponding ratio, from book cost.

He then shows at the right, at the bottom of that page, a correction of the mortality study to agree with the book cost in which he finds a somewhat shorter life than the mortality study shows.

4827 Although I would change the table, I consider that so far as the form shown on Table 12 and the results of the form shown on Tables 14 and 15 are concerned, the method is correct.

Having determined the average life from the life tables, Mr. Turner then attempts to check the average life against the figures shown on the company's books.

In Exhibit A-128, this check is indicated on Table 21 for Exchange Aerial Cable, at the bottom of the table, and 4828 on Table 24, for Exchange Underground Cable, and on Table 17 for Private Branch Exchanges. I think Mr. Turner's method of making this check of the mortality table, and adjustment of the mortality table, results to the books, is very inaccurate and incorrect in principle. The reason for my believing that is this: If you will turn again to Table 12 on Exhibit A-128, in preparing a table of this kind it is necessary for the company to trace the date at which certain units of property were placed; they have to trace those clear back to practically the beginning of the company.

Now, as is well known, the older records of the company are in less detail and less complete than the later records. The result is that the data of the form shown on Table 12, is incomplete for the earlier years, that is for the years toward the right-hand end of the table. Only those items of property are included, of which the date of placing could be traced so that the figures as shown on the table do 4829 not pretend to be the entire cost of plant in service, or the entire cost of plant removed.

Now, for the later period, the figures toward the left-hand end of the table, the data is practically complete; that is, the records are so much better that the company has been able to include practically all of the plant in service and practically all of the plant retired, in the table. That is, in the period beginning with 1, 2 and 3.

I have not determined it exactly, but for perhaps the first half of the table the data might be fairly complete, and the second half, it might be only partially complete.

Now, the data at the right-hand end of the table being the plant of greater age, represents plant with the highest retirement rate at the present time. By adding up all of the retirements, and all of the plant in service, in the three-year band on a table of this form, this older plant with the higher retirement rate is not weighted as heavily as it is in book cost,
whereas the plant placed later, with a lower retirement
4830 rate, is weighted the same as it is in book cost. The result is that the retirement rate derived from a table of this form, where the conditions which I have just described exist, will always show a lower retirement rate than is the fact. But in determining the life curve, or obtaining the life curve from this same table, the company uses a ratio of retirement to book cost for each year, so that that error does not enter. It is only when they add the entire table together without any weighting that the error is introduced.

There may be a further error that I might mention. The average life is determined from the smoothed or graduated life curve, of the form shown on Table 15. This curve does not follow the original data exactly, and it may be too long or it may be too short. Where the check is made against the original mortality table, any deviations in the graduation of that table to get the life curve are not reflected in the result.

4831 Exhibit X-154, entitled "Illinois Bell Telephone Company, Chicago Exchange; Mortality Study of Exchange Aerial Cable," was prepared by me or under my direction. This exhibit is intended to illustrate a principle or a method by which the objections which I have just raised to Mr. Turner's method of checking—or adjusting the life table to the book results, can be avoided. In principle my idea is that the original mortality table, the ungraduated mortality table, is not what we want to check against the books. What we want to check is the life curve from which the average life was determined.

This exhibit, X-154, shows a method in principle for checking the life curve itself, and adjusting that life curve to conform with the result as shown by the books. To describe this

table in detail, we have in the first column the age from initial installation; in the second column we have the percentage survivors unadjusted.

4832 Now, this is the company's graduated life table for Aerial Cable, which I took from their work sheets. The next column, headed B, represents in the form of relative numbers, or perhaps one might say index numbers, the amount of plant placed each year. This is purely an approximation for illustrative purposes. What I did was to take the book cost of plant at the end of 1930 and book cost of plant in 1915, adjust them to a uniform price level, and determine the rate of growth, which I found to be, over the period, an average of about 4.75 per cent. I then wrote down figures representing a rate of growth of 4.75, starting with 100.

These represent relative gross additions made each year if the rate of growth were uniform at 4.75 per cent. The next column, C, is the percentage of plant retired each year, and represents the differences between successive figures in Column A, starting with the difference between 100 per cent and the 98.742 per cent surviving the first year.

Now, the expected retirements, or the retirements which would be made during the current year, if the life experience of plant were that shown in Table A, and if the gross additions were relatively the same as those shown in

4833 Table B, is the product of the percentage retired each year of the age shown in C times the gross additions shown in B. These are the expected retirements shown in Column D.

Now the expected survivors of each age shown in Column E are Column A, the percentage survivors at each age, times the gross additions of Column B.

Now, totaling those two columns, that is Columns D and E, and dividing the expected retirements by the expected survivors, we obtain a retirement ratio. That is shown in Line 3 at the bottom of the page as .0564.

Now, in Lines 4, 5 and 6 at the bottom of the page I have divided the sum of the retirements for the years 1929, 1930 and 1931, from the books by the sum of the book cost at the beginning of the years 1929, 1930 and 1931, as shown

4833 by the books, to obtain the book retirement ratio. This I found to be .0544.

Now, using the company's method of adjusting the life table for differences in retirement ratio, I arrive at Column F, showing the percentage survivors, adjusted to the book results, which indicates in this case a life of 15.5 years.

I want to point out that by this method I have used
4834 the life curve as a basis for comparison with the books, and not the unadjusted original mortality data which includes both the fact that the weighting is incorrect, and the fact that any irregularities or any errors in extending and graduating this mortality data to form the life table are not taken into account. This table X-154, does not pretend to give an accurate result as regards average life. It merely illustrates the principle.

In order to get an accurate result, one should take in Column B, instead of a uniform rate of growth, the actual gross additions made each year, and of course this would not run back for 68 years. They would run back perhaps 40 years, and at the 40-year point the gross additions would start, and then they would be heavy for a period, and then light
4835 for a period, and then heavy for a period. The result of fluctuations in the rate of growth, or fluctuations in gross additions between periods of years, would not of course affect the average life.

The effect of using my method, as compared with Mr. Turner's, on the figures shown in Table 21, A-128, for exchange aerial cable, and in Table 24, A-128, for Main Subscribers' Underground Cable might be on the order of 9 to 15 per cent in the direction of a longer average life as nearly as I can tell from the approximate figures which I have made in the form of Table X-154.

That would make a lower depreciation rate.

(Exhibit X-154 offered in evidence subject to cross-examination. Cross-examination reserved.)

4836 K. E. THOLIN, called as a witness on behalf of the defendants, having been first duly sworn, testified as follows:

Direct Examination by Mr. Goldstein.

(June 13, 1932.)

I am the same Mr. Tholin who testified in the former hearings. I still hold the position of Supervising Examiner of Accounts of the Illinois Commerce Commission with the same duties as stated in the former hearings.

Exhibit X-155, entitled "Illinois Bell Tel. Co.—Chicago Division—Summary of Account 102 Reserve for Accrued Depreciation, Twenty-one years, 1910-1930, incl.," is a summary of the depreciation reserve of the Chicago Division as shown by the Company's books. The last column shows the balance of reserve at the end of the year.

4837 Exhibit X-156, entitled "Illinois Bell Tel. Co.—Chicago Division—Summary of Depreciation Reserve 1909 to 1931, incl.," is a summary of X-155 related to the average plant except in the last column where it shows the bal-

4838 ance in the reserve which has been related to total plant at the end of the year.

Exhibit X-157, entitled "Illinois Bell Tel. Co.—Chicago Division—Maintenance and Depreciation Expenses Expressed as a percentage of Average Plant in Service. 1911 to 1931, inclusive," shows the maintenance charges and the net charges to depreciation reserve and all of the figures on this sheet were taken from the books of the company. Exhibit X-158, entitled "Illinois Bell Tel. Co.—Chicago Division—Comparison of Commission's Allowance for Maintenance and Depreciation with actual charges for maintenance and depreciation accruals per Company's Books and Actual Charges for Retirements per Company's books—1923-1931," differs from Plaintiff's Exhibit A-59 in the following respects: The Illinois Commerce Commission order of August 16, 1923, fixed a combined allowance for both maintenance and depreciation. In this exhibit I have made a division of the Commission's combined allowance by deducting from

this combined allowance the company's actual maintenance expenses, the balance being applicable to depreciation.

In the comparison which I have made on Line 13, showing the excess of the company's depreciation accruals over the Commission's allowance, I have not included the
4839 amounts shown in Plaintiff's Exhibit A-59 representing depreciation charged to certain clearing accounts.

The amounts of depreciation which are temporarily charged to these clearing accounts are later cleared from these accounts by transfers to other accounts. The accounts which are finally charged with this amount of depreciation are the Fixed Capital accounts, Maintenance Expense accounts and the Depreciation Reserve itself.

The depreciation included in these clearing accounts represents depreciation of stable and garage equipment, general tools and general store equipment.

This equipment, for example, automobile trucks, is used in part for construction of new plant, in part for maintenance of existing plant and in part for the removal of plant being retired.

At the end of each month not only the depreciation of these trucks, but also the maintenance and operation of these trucks is prorated to either the Fixed Capital accounts, Maintenance accounts or the Depreciation reserve (representing cost of removal) according to the proportion of the various types of work performed.

4840 For example, whatever is included in the $109,080, representing depreciation charged to clearing accounts in the year 1923, which was ultimately charged to maintenance expense is also included in the total maintenance expense of that year of $5,901,733. The company, in its Exhibit A-59 thus duplicates that expense. The amount of this kind of depreciation which was ultimately charged to Fixed Capital accounts represents an item of cost of new property.

The amount which is chargeable to depreciation reserve in connection with removal of plant is also being provided for by the Commission's allowance and by the company's accrual, and therefore, that portion has no place in this comparison.

For these reasons I have excluded in the comparisons shown in my lines 9 to 14, all consideration of depreciation charged to clearing accounts. There is another difference

between the company's computations and mine. I am now referring to the lower part of both my exhibit and the 4841 company's exhibit. The company has included all of the net charges to the depreciation reserve in making its computations, but it has excluded certain other credits to the depreciation reserve.

In this case the charges include the loss due to retirement of the general equipment such as automobile trucks, tools and store equipment but the company has omitted the credits which come into the depreciation reserve currently to provide for such losses. The charges to the reserve also include miscellaneous adjustment and charges of various natures, but the company has omitted the miscellaneous credits.

In order to make a full comparison I have included as lines 16 and 17 of my statement these credits to the depreciation reserve, representing depreciation accrued on general equipment and also the other miscellaneous credits.

In Exhibit X 159, entitled "Illinois Bell Tel. Co. Chicago Division Summary of Account 102—Reserve for Accrued Depreciation after giving effect to the Illinois Commerce Commission's order beginning Oct. 1, 1923, 22 years, 1910-1931, inclusive," all of the figures were taken from the books of the company, with the exception of the figures in column 1 and the resultant changes in the balance in column 11, 4842 beginning with October 1, 1923. This exhibit merely gives effect to the Illinois Commerce Commission's order that is here under attack.

Exhibit X-160, entitled "Illinois Bell Tel. Co.—Chicago Division—Comparison of Commission's Allowance for Depreciation (Based on Public Utilities Commission Order #9291, Effective Jan. 1, 1921) with Depreciation Accruals as per the Company's Books, and actual Charges for Retirements as per Company's Books, 1923-1931" is a computation similar to the computation shown in X-158, excepting only that it is based upon the assumption that the Public Utilities Commission order of 1920 was in effect throughout the period instead of the Illinois Commerce Commission's order of 1923.

All of the computations made in the exhibits which have been offered in connection with my testimony, and which will be offered, are, in my opinion, correct. The facts stated in the exhibits are a mere statement of the facts as taken from the source which I state.

Exhibit X-161, entitled "Illinois Bell Tel. Co.—Comparative Study of Balance in Account 102 Reserve for Accrued Depreciation by Divisions—1913 to 1931, incl.," is taken from the books of the company and shows the balance
4813 of reserve for the various divisions of the Illinois Bell.

The suburban division is the portion of the Chicago Telephone Company area outside of the City of Chicago as covered by the P. U. C. order of 1920. By the P. U. C. Order of 1920, I mean the Public Utilities Commission's order of 1920. The Illinois Division represents the property purchased from the Central Union in 1920. At that time there was accrued against the property $3,487,831.

When the property was taken over by the Chicago Telephone Company, it was placed on its books at the purchase price and no portion of the depreciation reserve was taken over. It started to accumulate the depreciation reserve in 1920, as shown in column 3. Column 5 shows the effect of adding to the book figures of the Illinois Division the depreciation reserve as it existed prior to November 30, 1920.

The "Total" shown in the fourth column represents the sum of the book depreciation reserve figures. The last column "total" adds to the book figures the additional depreciation reserve which was not taken over by the Illinois
4814 Bell Telephone Company.

Exhibit X-162, entitled "Illinois Bell Tel. Co.—Comparative Study of Balance in Account 103 Reserve for Amortization of Intangible Capital by Divisions, 1913 to 1931, incl.," shows the Reserve for Amortization of Intangible Capital, and all of the figures were taken from the books. The third and fifth columns, Illinois Division, are subject to the same comment as was made with reference to X-161.

Exhibit X-163, entitled "Illinois Bell Tel. Co.—Comparative Study of Combined Balances of Accounts 102, Reserve for Accrued Depreciation and 103—Reserve for Amortization of Intangible Capital by Divisions, 1913 to 1931, incl.," is a total of X-161 and X-162. Exhibit X-164, entitled "Illinois Bell Tel. Co.—Balance of Account 102 Reserve for Accrued Depreciation Expressed as a Ratio of the Investment in Fixed Capital, 1913 to 1931, incl.," is X-161 converted into a percentage basis. That is, the ratio of depreciation reserve balances to plant balances.

Exhibit X-165, entitled "Illinois Bell Tel. Co.—Balance of

Account 103 Reserve for Amortization of Intangible Capital Expressed as a Ratio of the Investment in Fixed Capital, 1913 to 1931, incl.," is X-162 on a percentage basis.

Exhibit X-166, entitled "Illinois Bell Tel. Co.—Combined Balances of Account 102, Reserve for Accrued Depreciation and Account 103, Reserve for Amortization of Intangible Capital Expressed as a Ratio of the Investment in Fixed Capital 1913 to 1931, incl.," is X-163 on a percentage basis.

In Exhibit X-167, entitled "Illinois Bell Tel. Co.—Chicago Division Statement showing composite Life, Salvage and Depreciation Rate for Total Plant as determined from the Company's Detailed Depreciation Table Effective Jan. 1, 1930," consisting of three pages, the figures are taken from the company's books. This shows the detail for the 4845 year 1930, illustrating how the composite depreciation rates were estimated by the company, and the total of column 5 represents the company's figure for total accrual for depreciation, except for general equipment.

I have probably carried some of these figures out in greater detail than the company does, but otherwise it indicates the company's method.

Exhibits X-168, X-169, X-170, X-171 and X-172, entitled as follows: "X-168, 'Illinois Bell Tel. Co.—Chicago Division—Investment in Fixed Capital (Balance in Plant and Equipment Accounts)—Nine Years—Dec. 31, 1913, to Dec. 31, 1930'; X-169, 'Illinois Bell Tel. Co.—Chicago Division—Gross Additions to Fixed Capital—Eighteen Years—Jan. 1, 1913, to Dec. 31, 1930'; X-170, 'Illinois Bell Tel. Co.—Chicago Division—Retirements of Fixed Capital—18 years, Jan. 1, 1913, to Dec. 31, 1930'; X-171, 'Illinois Bell Tel. Co.—Chicago Division—Investment in Fixed Capital—1931'; X-172, 'Investment in Fixed Capital by Operating Divisions, 1882-1930, Total Investment, 1931,'" were taken from the books of the company, and are self-explanatory. This covers generally the gross additions, retirements and balances in plant account for the Chicago Division.

Exhibit X-173, entitled "Illinois Bell Tel. Co.—Chicago Division—Summary of Net Realized Depreciation, including Extraordinary Repairs, Charged to Account 102, 19 years, 1913 to 1931, incl.," has been taken from the company's books. It covers the charges to depreciation reserve by the plant accounts.

Exhibit X-174, entitled "Illinois Bell Tel. Co.—Telephone Stations in Service by Divisions and Methods of Operation as of Dec. 31, of each year 1923-1931, incl.," shows the Telephone Station distribution of the Illinois Bell and the various divisions, 1923 to 1931, divided between Manual
4846 Switching and Panel Switching, Step-by-Step Switching, and is taken from the company's statistical records.

Exhibit X-175, entitled "Illinois Bell Tel. Co.—Chicago Division—Summary of account 162—Reserve for accrued depreciation—after giving effect to the Public Utilities Commission's order during the entire period from Jan. 1, 1921, to Dec. 31, 1931, 22 years, 1909 to 1931, incl.," is the same as X-159 except that it gives effect to the Public Utilities Commission order of 1920 instead of the Illinois Commerce Commission's order of 1923.

Exhibit X-176, entitled "Illinois Bell Tel. Co.—City of Chicago—Details of Amounts reserved for Depreciation and charged to operating expense account #608 'Depreciation of Plant and Equipment,' Eleven years, 1921 to 1931, incl.," shows the details of the amounts reserved for Depreciation and charged to Operating Expense, Account 608, and the figures are all taken from the company's books.

Exhibit X-177, entitled "Illinois Bell Tel. Co.—Chicago Division—Statement of Investment in Manual Central Office Buildings and Manual Central Office Equipment as shown by the Company's Books as of Dec. 31, 1929, and Company's Estimated Additions to Retirement at dates indicated in Plaintiff's Exhibit A-128," is a statement of investment in Manual Central Office Building, and Manual Central Office Equipment as shown by the Company's books, and the estimated additions and retirements, as per Mr. Turner's study underlying his Exhibit A-128. Exhibit X-177 shows that the total amount of future additions which Mr. Turner took into account in his determination of the depreciation rates
4847 for Manual Central Office Buildings was $5,995,000 and the total future additions which he took into account in connection with Manual Central Office Equipment, were $11,563,000.

The data in Exhibit X-178, entitled "Illinois Bell Tel. Co.—Chicago Division—Actual per cent of Salvage realized by the Company in the years 1924 to 1931, incl., as compared with

the per cent which the company, in fixing its depreciation rates in prior years, had estimated that it would receive upon the retirement of the property (the span of years used herein is equal to the company's estimate of life)," were compiled from the company's salvage statistics and are self-explanatory. The first page shows the comparison in percentages and the second, in number of dollars.

Exhibit X-179, entitled "Illinois Bell Tel. Co.—Changes to Depreciation Reserve Expressed as a Ratio of the Amount Reserved for Depreciation in the Corresponding years 1921-31, incl.," was taken from the Company's books and is self-explanatory.

Exhibit X-180, entitled "Illinois Bell Tel. Co.—Chicago Division—Company's Estimate of Gross Amount of Refunds to be made to its subscribers if Commission's order of 1923 is not found to be confiscatory with simple interest at 5% to Dec. 31, 1931," is a computation that was made by me and under my supervision. The gross amount of refunds shown in the first column, was obtained from the company's records, and the calculation of simple interest at the rate of 5 per cent, shown in the last column, was done by me.

4848 Exhibit X-180 includes the estimated gross refunds from October 1, 1923, to December 31, 1931, with interest computed thereon to December 31, 1931. The principal amount of the gross refunds is $17,204,000, and the simple interest at 5 per cent is $3,611,433 as shown in my total.

Exhibit X-181, entitled "Ill. Bell Tel. Co.—Chicago Division—Company's Estimate of Gross Amount of Revenue collected which must be refunded to subscribers if Commission's order of 1923 is not found to be confiscatory, with interest compounded semi-annually at the rate of 6% to Dec. 31, 1931," shows the amount of refunds to December 31, 1931, with interest at the rate of 6 per cent compounded semi-annually on the same basis as the computation made by Mr. Sloan in computing his interest during construction. The difference in the result is shown in the difference in interest, which is increased from $3,611,433 in X-180 to $5,085,264.

The figures in Exhibit X-182, entitled "Illinois Bell

4849 Tel. Co.—Chicago Division—Depreciation of Exchange Aerial Wire (Account 243) 18 years—Jan. 1, 1913, to Dec. 31, 1930," in column 2, were taken from the company's

books. Column 3 represents the average plant in service each year on the basis shown in the footnotes A and B. Column 4 is the actual depreciation rate used by the company. Column 5 is the result of applying that rate to the average investment of column 3. Column 6 is the net realized depreciation. Column 7 shows the increase and decrease in the reserve. Column 8 shows the depreciation reserve at the end of each year. Generally speaking, prior to 1929, the company accrued depreciation for a portion of its aerial wire. Since that date no accrual is being made for any portion of the aerial wire and the entire account is handled through maintenance.

I would like to add one remark about the eight column, the last column on this exhibit. The company had a depreciation reserve prior to 1913, but I have not made any
4850 division of that reserve, to allocate any portion of it to this particular account.

In Exhibit X-183, entitled "Illinois Bell Tel. Co.—Chicago Division—Study of Company's Accrual of Depreciation on Station Apparatus (Account 231) 12 years—Jan. 1, 1920, to Dec. 31, 1931," the figures in column 2 were taken from the company's books. Column 3 represents the estimated salvage based upon the per cent of salvage used by the company in the current year in determining its depreciation for this account.

Column 4 is the difference between column 2 and column 3, indicating the investment loss to be provided through charges to depreciation.

Column 5 represents the balance of depreciation reserve account pertaining to this particular class of property existing on the books of the company at the end of the year.

Column 6 is self-explanatory. Column 7 shows the amount carried to the reserve in years subsequent to the year indicated to apply on the investment for that year. For example, the figure $1,288,487 means that in the years subsequent to 12/31/22 the Company through the depreciation charges, car-
ried that amount to reserve to apply on the investment
4851 of $7,825,805 shown in Column 2.

The last column shows the total accumulated reserve during this period applicable to investment of each year in this item. Taking the same example, the total accumulated reserve was $4,761,070 against the investment of $7,825,805,

not taking into account the estimated salvage of $1,086,773. After deducting the salvage the net investment loss to be recovered would be $2,739,032 and the depreciation charges of $4,761,070 represent 173.82 per cent of that loss. This exhibit does not include any charges to be made subsequent to December 31, 1931, for investment loss recovery on investment prior to that date.

X 184, entitled, "Ill. Bell Tel. Co. Chicago Division — Depreciation of Station Apparatus (Account 231) 19 years — Jan. 1, 1913, to Dec. 31, 1931" shows the detail of how the reserve was built up on the Station Apparatus Account which was the subject matter of X 183. This exhibit does not include any portion of the early reserve of the company such as I have discussed before.

4852 Exhibit X-187, entitled, "Illinois Bell Tel. Co.—City of Chicago—Comparative Study of per cent condition or per cent value as of Dec. 31, 1930, expressed as a percentage of value when new as determined by average life method and as determined by the company." shows the per cent condition based upon ratio of expired service life to total service life as computed by the Company in Exhibit A 128. Excepting for 1930 we have used the actual additions and retirements instead of the estimated amounts used by Mr. Turner. As to this exhibit and all other exhibits offered and to be offered by me, the computations are, in my opinion, correct.

Exhibit X-186, entitled, "Illinois Bell Tel. Co.—City of Chicago—Comparative study of per cent condition or present value as of Dec. 31, 1930, expressed as a percentage of value when new as determined by age-life method and as determined by the company," is similar to X-185, but refers to buildings.

Exhibit X-187, entitled, "Ratio of Balance in Reserve for Accrued Depreciation to Total Investment in Plant and Equipment at Dec. 31st of each year, 1913 to 1930, incl.," shows the ratio of balances in reserve for accrued depreciation to the total investment in plant and equipment December 31st of each year 1913 to 1930, inclusive, for the American Telephone & Telegraph Company, and for the various licensee companies of the Bell system.

4853 The information on Lines 1 to 28, inclusive, was supplied by the Interstate Commerce Commission from its official records.

Line 29 was computed from data furnished by the American Telephone & Telegraph Company and in this particular case represents the average for the years instead of the actual at the end of the year.

The data on Lines 30 to 33, inclusive, are computations made from the basic amounts appearing on the books and records of the Illinois Bell Telephone Company.

The figures appearing on Lines 34 to 36, inclusive, are also based upon the investment and the depreciation reserves as appearing upon the books of the Illinois Bell Telephone Company, modified, however, to reflect the orders of the Illinois Commerce Commission.

This exhibit is self-explanatory and the working papers have been made available to the plaintiff.

Exhibit X-188, entitled, "Illino's Bell Tel. Co.—Chicago Division—Investment in Central Office Telephone Equipment at Dec. 31, 1923 to 1931, incl. and April 30, 1932," is information which is taken from the books of the Illinois Bell Telephone Company, and is self-explanatory.

4854 Exhibit X-189, entitled, "Ill. Bell Tel. Co.—Chicago Division—Comparison of gross additions and retirement of manual Central Office Telephone Equipment 1930 and 1931 with the Company's estimates shown on 1929 study," is a statement of the actual gross additions and retirements of Manual Central Office Telephone Equipment for the years 1930 and 1931 as taken from the books of the Company, compared with the estimates used by Mr. Turner in compiling Exhibit A-128. The amounts shown in this statement were taken from the Company's records, and show the information separately for each of the Manual Central Offices. I have compared Mr. Turner's estimated Gross Additions for the Merrimac Building for the year 1931 with the Actual Gross Additions. I found that Mr. Turner estimated the gross additions for that building in 1931 at $152,000. The actual additions were $27.00.

I would like to ask to make a correction on this Exhibit X-189. I notice in the heading of the last double column the years 1931 and 1932; that should read 1930 and 1931.

I have examined Mr. Turner's working papers which
4855 underly page 6 of Exhibit A-128 which are similar to page 5 of the said exhibit, to ascertain therefrom for

which central offices, if any, Mr Turner made no estimates of future additions.

I find that there are six manual central offices included in the group shown on page 6 of Exhibit A-128 for which Mr. Turner estimated no future additions for the period beginning with the year 1930 to the date of retirement and one office where no additions were estimated beyond 1931. I have the names of those offices, and the dates beyond which there are no retirements, and the date of the retirement.

For the Douglas Office, no additions were estimated beyond 1929 to the year 1937, which is the date of retirement. For the Oakland Office, no additions were estimated beyond 1929 to 1937, the date of retirement.

For the Wentworth Office, no additions were estimated beyond 1929 to 1934, the date of retirement.

For the West Office, no additions were estimated
4856 beyond 1929 to 1932, the date of retirement.

For the Yards Office, no additions were estimated beyond 1929 to 1934, the date of retirement.

For the Hyde Park Office, no additions were estimated beyond 1931 to 1934, the date of retirement.

I examined the papers relating to the Edgewater Manual Central Office among the working papers underlying A-128. This Edgewater Office is in addition to the six to which I have referred above. I found that in the case of the Edgewater Manual Central Office, Mr. Turner, in the working papers underlying Exhibit A-128, estimated no additions beyond 1929 to 1940, the date of retirement. The Edgewater Central Office is located at 1470 Carmen avenue.

Specific Estimate Number C-26255, dated November 15, 1926, provides for the installation of panel machine switching central office equipment in the new Longbeach Central Office located in the new Longbeach Building at 1512 Carmen
avenue, which is the northwest corner of Carmen ave-
4857 nue and Clark street within one block of the Edgewater
Manual Central Office Building.

The Specific Estimate Number C-27120, dated May 18, 1927, covering the erection of the new Longbeach Building, which was completed about October 25, 1927, contains the following information:

"The location of the office is in accordance with the funda-

mental plan for the area. The building is necessary to provide relief for the present Edgewater Office, the capacity of which will be reached September 30, 1928. Studies have been made which indicate that it will be more economical to provide relief with a unit of dial equipment than to extend the present manual office."

The recommendation sheet contains the following:

4858 "The basis for recommending a panel machine unit for the Edgewater district relief is a cost study which indicates that machine switching equipment should be installed in this case. The study has been reviewed by the American Telephone & Telegraph Company and they concur in the conclusions reached in a letter to the Chief Engineer, dated August 20, 1926."

In the authorization sheet of estimate Number C-26255, dated November 15, 1926, I found the following:

"This new unit will relieve the present Edgewater manual units until February 28, 1933. The capacity of the present units will be reached during September, 1928, at which time this equipment must be ready for service."

I examined the authorization sheet of Estimate Number C-27171 that bears the date of July ~~25~~, 1927, and the work was completed November 6, 1928. This covers

4859 the Longbeach Dial Office cutover, and contains the following information:

"This work is necessary in order to transfer to the new Longbeach Office all of the message rate lines in the present Edgewater Manual Office, which are to be operated from the Longbeach Dial System Unit. The cutover is scheduled tentatively for July 21, 1928."

I examined the authorization sheet of Estimate Number C-27252 covering the cutover of the Longbeach dial office. This is dated November 22, 1927, and indicates that the work was completed April 1, 1929. I found the following:

4860 "The initial cutover of approximately 4,800 single measured service lines (11,000 stations) will be made without number changes and will include all of the lines then working in the Ardmore multiple under the Longbeach prefix. The cutover is to be made on a wholesale basis and is tentatively scheduled for September 8, 1928.

Subsequent cutovers will consist of transferring approxi-

mately 3,800 lines (8,500 stations) from the other manual units in Edgewater at the rate of about 100 lines per day starting as soon after the initial cutover as traffic conditions will permit and completing about December 31, 1928."

I have made a similar investigation regarding the Merrimac Central Office Equipment. The Merrimac Central Office Building, which was constructed in 1926, is located at 5604 West Belden avenue. The Merrimac Exchange area, as indicated in Plaintiff's Exhibit A 20, is bounded on the north by Kildare and on the east by Belmont and on the south in part by Austin Exchange areas.

The traffic recommendation attached to the authoriza-
4861 tion Number C 25227, is dated June 30, 1926, and indicates completion August 6, 1927, covering new Central Office equipment at the new Merrimac Office and contains the following information:

"This new Central Office is recommended as a result of a Fundamental Plan study made by the Chief Engineer. It is to be located in the vicinity of the intersection of Grand and North Central Avenues, and will serve portions of the present Austin and Belmont areas, including the so-called Mont Clare Portion of the Austin area."

"The ultimate area to be served by this new office will also include a part of the present Kildare District. Telephone development in the initial area is predicted by the Commercial Department as follows:"

and then follows a table indicating the number of stations
which the Merrimac Office would serve from the original
4862 Austin and Belmont areas, indicating that by December 31, 1926, 6,400 stations would be served by this particular exchange, from the former Austin area; by December 31, 1927, this would amount to 7,395 stations; and by the end of 1928, 8,210; and from the Belmont area, 1,688 by the end of 1926; 1,970 by the end of 1927; and 2,225 by the end of 1928.

4863 The total number of stations shown on that specific estimate as being in the territories which would now be served by the new exchange are as of December 31, 1926, 8,088; December 31, 1927, 9,275; and December 31, 1928, 10,465. Specific Estimate C-26027, dated January 28, 1926, and covering the construction of the Merrimac Building, contained the following:

"It is necessary to establish the office at this time to provide for growth which cannot be economically cared for from the existing offices serving the area."

Specific Estimate C-26199 dated August 1, 1926, covering additional central office equipment in the Merri-
4864 mac office contains the following information:

"The capacity of the pending central office equipment in the new office is 9,600 stations. The new office will initially serve portions of Austin, Belmont and Kildare office areas; the cut-over to be made coincident with the November, 1926, directory. Due to outside plant congestion in the Belmont district, it was found necessary to further relieve the latter office, and for that purpose plans were developed for transferring two areas into the new Merrimac office in connection with the November, 1927, and 1928 directories."

I have made some examination of the plaintiff's working papers underlying the per cent condition as of December 31, 1930, assigned to these classes of station apparatus which the company had authorized to be junked when taken from the subscribers' premises and returned to the warehouse.

I made a check of the station equipment which Mr. Hyatt testified were inspected in three exchanges, namely,
4865 Canal, Monroe and West, which inspection covered fifty-nine stations. I found five No. 115-G sub-sets in service which were included in the company's list of apparatus which was authorized to be junked upon recovery from subscribers' premises during the years 1929 to 1931, inclusive. Of these 5 No. 115-G sub-sets, one was rated by Mr. Hyatt as being "Good as new" and rated in 96 per cent condition; three were rater by him as "fair," or 88 per cent condition, and one as "poor," or 80 per cent condition. The company's studies purport to show that the junk value of sub-sets is approximately 1.5 per cent.

The stations which I examined also included one sub-set, Type C-294, which has been in the junking list during the years 1929 to 1931. This set was rated by Mr. Hyatt as being "Good-as-new" and assigned a per cent condition of 96 per cent. This list also includes seven sub-sets, Type 295-B-E, all of which were rated by him as "Good-as-new" and given a 96 per cent condition; this type also appears on plaintiff's list of equipment authorized to be junked in 1931.

These fifty-nine stations include seven sub-sets, Type 295-R,
of which five were rated by Mr. Hyatt "good-as-new,"
4866 and given a 96 per cent condition and two rated "fair" at
88 per cent condition, although this type is also on the
1931 junking list.

The fifty-nine stations also include one sub-set Type 295-A and one Type 295-R-X, both rated by Mr. Hyatt as "Good as new," although this type is on the 1931 junking list.

These fifty-nine stations also include two desk stands, Type 40 C-M, rated by Mr. Hyatt as "Good-as-new" and given a per cent condition of 90 per cent; this type was on the junking list from May, 1930, to the end of 1931.

Mr. Hyatt's records indicate he examined 1,174 stations on the subscriber's premises. The average per cent condition assigned to these 1,174 stations was 92.61 per cent.

Mr. Hyatt also inspected 3,538 sets of station apparatus which had been removed from subscribers' premises in the
regular course of business and returned to the store-
4867 room during a three day period. He assigned them a
92.77 per cent condition. I have determined from Mr. Hyatt's working papers the minimum per cent which represents his estimate of salvage used by him in determining per cent conditions.

I have taken the minimum per cent which Mr. Hyatt fixed for each of the component parts of station apparatus exclusive of teletypewriters and based upon the ratio which each of these component parts are of the total as shown in Mr. Hyatt's working papers, I have computed the minimum value or per cent condition which Mr. Hyatt used for station apparatus to be 65.63 per cent.

I have examined the records of the company to determine the basis of the company's estimate of five per cent for salvage of station apparatus which is junked.

The company has not made a separation of the actual salvage recovered in any year so as to show what part
4868 thereof represents the apparatus junked and what part
pertains to apparatus reused.

The company's estimate of five per cent junk salvage is based on estimated quantities of various kinds of materials included in the different kinds of apparatus to which quantities the current price has been applied. The calculations

which were furnished me did not show a result of five per cent for junk salvage. Data was given me covering three types of stations. Two of these indicated two per cent salvage and one of them 1.6 per cent junk salvage.

Exhibit X-191, entitled "Ill. Bell Tel. Co.—Chicago Area—Station Apparatus Calculation of Junk Value (Based on prices as of 5-1-32)," shows the two per cent salvage
4869 on two items, and 1.6 per cent salvage on one item. The sheet that the company gave me was dated 5-1-31, but it should be 5-1-32. Both of these statements, X-190, entitled, "Ill. Bell Tel. Co.—Chicago Area—Statement maximum Salvage of Dismantled Statement Apparatus assuming reuse of all dismantled parts," and X-191 were furnished me by Mr. Cox of Mr. Turner's office. Mr. Cox explained that five per cent had been used instead of two per cent in order to make some allowance for station apparatus that was dismantled wherein certain component parts could be reused which would naturally result in a higher percentage of salvage.

The same general method of calculation of the salvage was used where parts are reusable, as with the ultimate junk salvage.

4870 Mr. Cox advised that the company had no data showing the proportion of equipment which is completely junked as compared with the equipment wherein some parts are reusable. The estimated over-all life of eighteen years for station apparatus is entirely dependent upon the five per cent junk salvage which the company had used. The process is to determine the number of stations junked each year, using the five per cent salvage as one of the factors, and after determining the number of stations junked in each year, in this manner the turnover cycle method is used to determine the over-all life. If two per cent were used in the formula instead of five per cent, the effect would be to increase the over-all life, and this would also involve more reuses of the equipment.

4871 There is no record to show when the company reinstalls station apparatus which has previously been in service, whether that unit has served one or more periods of usefulness. The number of stations indicated by Mr. Turner's formula as being junked in the years 1923 to 1931, are

as follows: 1923, 12,565; 1924, 21,350; 1925, 16,729; 1926, 25,844; 1927, 26,861; 1928, 32,952; 1929, 26,452; 1930, 61,978; 1931, 46,462. Mr. Turner's estimate of the number of stations removed from service in these years is as follows: 1923, 92,963; 1924, 106,973; 1925, 139,684; 1926, 156,633; 1927, 188,878; 1928, 246,502; 1929, 251,267; 1930, 291,570; 1931, 306,334.

4872. Mr. Redmond testified in connection with Exhibit A-22 that he found four items of equipment which were considered obsolete and that three of these he rated at zero per cent condition. These three items which Mr. Redmond stated had been given a per cent condition of zero represent .36 of one per cent of the total depreciable property.

The paper conduit which Mr. Redmond considered obsolete, but to which he gave a five per cent condition, represent .34 of one per cent of the total depreciable property.

Referring to Mr. Hyatt's testimony that in determining the per cent condition he used a process of measuring the cords, plugs and a portion of the jacks which are contained in the various central office telephone equipment and in private branch exchanges, I have determined what portion of the entire depreciable plant is represented by these items. These items represent .99 of one per cent of the total depreciable plant.

Referring to Mr. Riley's testimony that a percentage of the poles were tested by a method of penetration to

4873 determine the amount of rot, I have determined that 11.81 per cent of all of the poles inspected were examined by the penetration method. Applying that same percentage to all of the poles in service would result in an amount of plant equal to .18 of one per cent of the total depreciable property.

Referring to Mr. Redmond's testimony that he determined the per cent condition of the automobile equipment by the process of relating the number of miles which the equipment had run up to December 31, 1930, to the total number of miles which might be expected from the said equipment until it was ultimately worn out, I determined that this equipment represents .27 of one per cent of the total depreciable property. I have examined the company's method of assigning per cent condition to the automobile equipment owned by the company.

There were three passenger cars included in the company's list of automobiles, of which one was a Lincoln model 1927 limousine. The book cost of that car was on December 31, 1930, $5,862.60. The company used the number of miles which the equipment had run to December 31, 1930, as compared with the total number of miles which might be expected from such equipment in determining its per cent condition. This car had run 23,836 miles of an estimated mileage expectancy of 150,000, when the car was expected to be retired, because it would be worn out. The company assigned a per cent condition of 82 per cent of cost as of December 31, 1930.

The depreciation rate used by the company for this
4875 type of equipment in the years 1928 and 1929 was approximately 24 per cent, and in the year 1930, approximately 21 per cent.

The records show that the following panel machine switching central offices were placed in service during the period 1923 to 1931, inclusive; Central, June, 1923, State, August, 1923; Superior, November, 1925; Whitehall, May, 1927; Long Beach, September, 1928; Randolph, December, 1928; Franklin, December, 1928 Wabash, November 30, 1929; Harrison, November 30, 1929; Webster, November 30, 1929; Delaware, March 14, 1931; Andover, June 15, 1931; Dearborn, January 1, 1931.

The manual central offices that went into service between 1923 and 1931, were Newcastle in 1923 and Merrimac in 1926. The manual central offices that went out of service during the period 1923 to 1931, inclusive, were Randolph-Central, 1923; Randolph, 1928; Main, 1928; Tandem, 1931; Wabash-Harrison, 1929; Chesterfield, 1930; Dearborn, 1931, and Delaware, 1931.

4876 (Defendants' Exhibits X-155 to X191, inclusive, offered in evidence. Ruling reserved until after cross-examination.)

4880 "Judge Wilkerson: Where an exhibit has been identified and presented to the court, unless there is some objection made to it, and a rule excluding it, it will be in the record. That works for both sides, if by inadvertence an exhibit is not formally offered."

4882 *Cross Examination by Mr. Bracelen.*

In connection with my exhibit identified this morning as X-187, which I said was based, either in whole or in part, upon certain figures that were furnished me by the Interstate Commerce Commission, we did not receive copies of the Annual Reports of the operating of the Bell System from the Commission and take the figures from those records. I might state this: That the earlier years were taken from the table in the rear of the Interstate Commerce Commission's report in case No. 14700, the Depreciation Case. It was the
4883 original report, I think, November 2, 1926, if I recall the date correctly, and the years following the data shown in that report were obtained from the Interstate Commerce Commission by correspondence.

(The following described exhibits furnished by plaintiff were offered in evidence by defendants, to all of which plaintiff reserves objection.)

The balance of Exhibit X-104, that is the statements from 1923 to 1930, inclusive, corresponding to the other years shown in X-104, sent by the A. T. & T.

The balance of X-105 are sheets corresponding to those which have been identified and cover the years 1923 to 1930, and are those sent by the A. T. & T. also to be identified as X-105.

X-192 is CR 51 A, "Associated operating companies excluding American Telephone & Telegraph Company Long Lines Department," two pages for the year ending December 31, 1931.

4884 X-193—C. R. 53.

X-194—195 Broadway Corporation, Balance Sheets and Income Statements, R. E. 1, for 1923, 1925, 1928, 1929, 1930.

X-195—195 Broadway Corporation, Pay roll and occupancy reports, R. E. 2, 1923 to 1926.

X-196—205 Broadway Corporation, Balance Sheets and Income Statements, R. E. 11, for 1923, 1925, 1926, 1927 and 1928.

X-197—205 Broadway Corporation, Pay roll and Occupancy Report, R. E. 12, for 1924, 1925 and 1926.

X-198—195-205 Broadway Corporation, Occupancy Reports, R. E. 12-A, 1927, 1928, 1929, 1930.

X 199—Western Electric Co., Inc., Sales to Classes of Customers. C. R.-C. A. 1.00 per years 1916-23-25-30.

X-200—Western Electric Company, Inc., Estimated Cash Receipts from Licensee Companies—C. R. 7.14 for years 1921, 1924, 1925, 1926, 1927, 1929, 1930.

4885 X 201—Western Electric Co., Inc., Current Interest Bearing Indebtedness C. R. No. 7.15

Year 1921 Page 1 of report for Jan. 31
Page 1 of report for Apr. 30
Page 1 of report for July 31
Page 1 of report for Oct. 31

Same for Year 1923
Year 1924
Year 1929 (except sheet 1 for Jan. 31).
Year 1930.

X 202—Bell Tel. Laboratories, Inc., Analysis of Expense by Classes of Work, M 3.41, for December, 1925-1930, incl.

X 203—Bell Tel. Securities Co., Inc., Cash Statement for 1923-1924, and 1929-1930.

X 204—Bell Telephone Securities Co., Inc., Expense Report for December, 1923-1930, C. R. 42, and since 1928, C. R. 44.

X-205—A. T. & T. Co. Long Lines—M. R. 14—December of years 1927, 1928, 1929 and 1930. Cash report front and back of sheets.

X-206—A. T. & T. Co—C. R. 14—Cash Statements, 1923-1930.

4886 X-207—A. T. & T.—Operating Revenues shown separately for Long Lines, License and Holding Company, 1920-1931 (Schedule 310 of Report to I. C. C.).

X-208—A. T. & T.—Operating Expenses shown separately for Long Lines, License and Holding Company, 1920-1931 (Schedule 320 of Report to I. C. C.).

X-209—Cost of Principal Activities, Charges to Development Account, 1923.

X-210—Western Electric Non-Bell and Direct Engineering Department Expense, 1923.

X-211—Bell Telephone Laboratories—M-8.00 Reports—Balance sheets for Dec. 31, 1924, Jan. 1, 1925, and sheet explaining entries; Dec. 31, 1929; Dec. 31, 1930.

X-212, X-213, X-214, X-215, X-216—Bell Telephone Securities Circulars—dated June 16, 1924 (212); June 14, 1926

(213); June 11, 1928 (214); May 20, 1929 (215); June 9, 1930 (216).

4887 X-217—A. T. & T. Miscellaneous Non-Operating Revenue Account 316, 1923-1930.

X-218—Bell Telephone Laboratories, Inc., Receipts and Disbursements, 1925-1930.

X-219—A. T. & T. Co., Average Number of Stations in Service of Each Company Receiving License Contract Service and City of Chicago, 1923-1930.

X-220—Trust Agreement—Pension Fund—A. T. & T. and Bankers Trust Company—Dec. 31, 1927.

X-221—Trust Agreement—Pension Fund—Any other Company and Bankers Trust Co.—Dec. 31, 1927.

X-222—A. T. & T. Co., Memorandum relative to Actuarial determination of accrual Charges for Service Pensions on the full service basis.

X-223—Copy of Resolutions of Board of Directors of A. T. & T. authorizing establishment of Pension Fund.

X-224—Ill. Bell, Copy of Resolutions.

X-225—A. T. & T. Co., Funds of Associated Companies temporarily placed with A. T. & T. Co. until required by them (average), years 1923-1930.

X-226—Western Electric Company, Inc., Analyses of Cost of Sales—1925 and 1930.

4891 W. M. HAMMOND, called as a witness on behalf of the defendants, having been first duly sworn, testified as follows:

Direct Examination by Mr. Goldstein.

(June 14, 1932.)

My name is W. M. Hammond. I reside at Springfield, Illinois. My present position is chief accountant of the Illinois Commerce Commission. I have had that position about fourteen years and four months. Prior to that, I was assistant chief accountant of the Commission, for approximately two years, and examiner of accounts, for the remainder of the time. I was engaged prior to that in accounting,

statistical and financial analysis work. In the employ of various railroads—three different companies.

4892 I had charge of the preparation of financial, statistical and operating reports, and spent considerable time in preparing matter for presentation to the State Commissions and to the Interstate Commerce Commission, on rate matters; and some other proceedings.

In connection with my duties as chief accountant for the Illinois Commerce Commission, one branch of the work has been in the handling of investigations in connection with securities issues. Since 1949 I have personally heard for the Commission practically all applications for authority to issue stocks, bonds and other securities.

In connection with those hearings it has been my duty to examine witnesses, to make such investigations as seemed necessary and desirable, to make recommendations to the Commission on the case, and to suggest what I deemed an appropriate form of order.

4893 Under the existing law, applications made to the Interstate Commerce Commission involving railroads operating in Illinois are referred to the Illinois Commerce Commission for the purpose of affording opportunity of making recommendations. Those are handled by me, investigated, and a report made to the Commission, with recommendations to any representations, and if so, what, I deem appropriate to have made before the Interstate Commerce Commission. That involves a study, more or less, of the cost of funds, and the general level of security prices and rates.

I also hear all applications for, and make recommendations to the Illinois Commerce Commission in connection with all plans for the reorganization of utilities under the jurisdiction of the Illinois Commerce Commission.

For the last several years, four or five years, I have

4894 heard practically all applications for authority to sell or lease public utility property.

We have a department subdivision covering the preparation and classification of accounts and accounting rules which the Commission prescribes for the use of public utilities, in keeping their accounts.

I also handle accounting matters that may be of joint interest between the Illinois Commerce Commission and the Interstate Commerce Commission, particularly matters relat-

ing to the interpretation of existing accounting rules, and revisions and changes therein from time to time.

I prepared, with the assistance of my staff, the Uniform System of Accounts for electric utilities, for gas utilities, for water and heating utilities, which was prescribed for use by the Public Utilities Commission of Illinois in 1918.

My department prepares, under my supervision, the
4895 forms of reports to be rendered and required by law to the Illinois Commerce Commission, by all utilities under its jurisdiction.

These reports when received are analyzed, and the data prepared for the use of the Commission and others.

In 1931, there were 753 utility companies under the jurisdiction of the Illinois Commerce Commission, representing an investment in Illinois of approximately $1,850,000,000, exclusive of railroad, express and telegraph companies, and the American Telephone and Telegraph Company.

The number of applications for authority to issue securities for the last twelve years under my supervision, has been approximately 1,687 involving issues aggregating more than $2,000,000,000.

I also have supervision over the audit and investigation of
accounts and records of public utilities under the juris-
4896 diction of the Commission, the greater part of such investigation having relation to the authorization of securities, reorganization and rate matters.

In connection with the work of the Interstate Commerce Commission, my work has been particularly in the matter of depreciation of telephone property. The Interstate Commerce Commission entered an order on November 1926, which is in the record in this proceeding, Record Volume 1, in which it was provided that the Interstate Commerce Commission would receive recommendations from the State Commissions as to the rates for depreciation of various classes of telephone property.

The Association of State Commissioners has created a committee for the purpose of collaborating with the Interstate Commerce Commission and with other State Commissions with respect to the determination of proper rates for depreciation to be recommended to the Interstate Commerce Commission.

Now, the further or final order in this case was en-
4897 tered July 28, 1931, in which the Commission confirmed the previous order of 1926 with respect to the recommendations of the State Commissions.

During the year 1930, I served as chairman of the Committee of the National Association dealing with this matter. In 1931, I served as a member, and since the early part of 1932, have been serving as chairman of the committee.

I have served on the committee on Statistics and Accounts during the last twelve years, for approximately one-half the time, and have been chairman of the committee a portion of the time.

I was one of three accountants of the National Association who drafted systems of accounts for electric and gas utilities, which have since been approved and are now in use by some twenty-seven commissions, approximately.

In connection with the instant case, I have made certain studies with reference to bonds and stocks.

4898 There were four main studies made on bond issues under my supervision, the work covering a period of twelve months, entailing the work of from three to ten persons. A check of the studies has been going on almost continuously to the present time, both in Chicago and by sending persons to Washington to check the figures against the official records of the Interstate Commerce Commission.

A study was made of 330 long-term bond issues of $5,000,000 or more, issued during the years 1921 to 1931, inclusive, aggregating $6,138,000,000 covering railroads, Bell System telephone companies, and public utilities other than the Bell System companies, in respect to the annual cost to the company and the yield on offering price of the issue, where the authorization of such issue was approved by the Interstate Commerce Commission or by one or more of ten State Commissions from whose official records information was obtained.

4899 The State Commissions from which the information was obtained were as follows:

California, Maryland, New York, Illinois, Massachusetts, Ohio, Wisconsin, Maine, New Jersey, and Vermont.

Of these issues we have made a further study of 271 of the 330 issues which were issued during the year 1923 to 1931, aggregating $5,184,000,000 to show the spread between the

annual cost to the company and the yield on the offering price of the issues, grouped according to Moody's investment rating in the year of offer.

4900 The second study was a study of 878 long-term bond issues of $5,000,000 or more, issued during the years 1923 to 1931, aggregating $14,345,000,000 of railroads, the Bell System Telephone Companies, public utilities other than the Bell System, and industrial and other companies in respect to the amount offered and the proportion of the total offering in each case grouped according to Moody's investment rating at the time of offering.

The third was a study of the yield on offering price of the 829 bond issues of $5,000,000 or over and issued during 1923 to 1931, aggregating $13,809,000,000, issued by railroads, Bell System Telephone Companies, public utilities other than the Bell System companies, and industrial and other companies in respect to the yield on public offering price of the bonds classified according to their investment rating when issued.

4901 After excluding from the 829 issues all convertible bond issues and bond issues carrying stock purchase warrants, a further (the fourth) study was made of the remaining 720 issues aggregating $11,347,000,000 in respect to the resale price of such issues for each of the years from the date of issue to 1931, inclusive, grouped according to the investment rating at the date of issue and also grouped according to the investment rating in the year of resale.

The result of these studies has been reduced by me to summaries shown in exhibit form and in charts.

These summaries and charts have been reproduced in detail in connection with each of these studies, grouped according to subject matter.

They have also been reduced to exhibit form, and copies of them have been furnished to the plaintiff.

In my opinion, through the use of these sheets, the accuracy of the charts and the summaries, and the method of
4902 their computation, can be determined.

Exhibit X-227 is a chart entitled "Cost to companies, yield to public and spread between cost and yield on offering price of bonds," is a graphic reproduction of Exhibit X-229. I think it is fully self-explanatory.

Exhibit X-228 is a chart entitled "Spread between annual

cost to company and yield on public offering price, 330 bond issues, 1921-1931, aggregating $6,138,000,000," is likewise a reproduction from Exhibit X-229. It is based on figures in the last three columns of X-229.

4903 Exhibit X-229 is entitled "Comparative statement showing cost to companies and yield to public on bonds issued by Bell System, Railroads and Public Utilities, other than Bell System, average for each year 1921 to 1931, inclusive."

The heading states the subject matter. The figures underlying the computations relating to the cost of the company were taken from the official records of the Interstate Commerce Commission.

4904 The figures for the railroads were likewise taken from the Interstate Commerce Commission, and, for the public utilities, were taken from the official records of the Illinois Commerce Commission and from the records of the State Commissions above stated.

The figures underlying computations under "yield to the public," were taken from the Commercial and Financial Chronicle and Moody's Investment Manual, and Poor's.

The spread between the average cost to the company and the average yield to the public is the difference between the first and second groups of figures.

Exhibit 230 is a chart entitled "Bonds grouped by ratings (Moody's) showing amount in each group and its proportion to total offering, 878 issues, 1923-1931, aggregating $14,345,000,000."

This exhibit shows for the Bell System, railroads, public utilities and industrials, the percentage of total amount
4905 of bonds issued in each year represented by each classification of bonds based on Moody's ratings.

Exhibit X-231 is a chart entitled "Bonds grouped by ratings (Moody's) showing amount in each group and its proportion to total offering, 878 issues 1923-1931, aggregating $14,345,000,000."

It shows the same facts as X-230 in different form, together with some additional amounts representing issues on which Moody's ratings were not available.

Exhibit X-232 consists of three pages and is entitled "Comparative summary showing amount offered and proportion of total offerings of Bell System, railroad, public utility (other

than Bell System) and industrial and other bond issues of $5,000,000 and over, issued during years 1923 to 1931, inclusive, grouped according to investment rating at time of public offering."

This exhibit shows the figures on which Exhibits X-230 and X-231 are based.

4906 Exhibit X-233 is a chart entitled "Spread between annual cost to company and yield on public offering price, 271 bond issues 1923-1931, aggregating $5,184,000,000, grouped by ratings (Moody's)."

This exhibit is I believe self-explanatory. It shows in graphic form the data given in the last three columns of Exhibit X-235.

Exhibit X-234 is a chart entitled "Trend of spread between annual cost to company and yield on public offering price, 271 bond issues, 1923-1931, aggregating $5,184,000,000, grouped by ratings (Moody's)."

This exhibit also shows in graphic form the data shown in the last three columns of X-235 and is I believe self-explanatory. It is noted here again that the ratings are of the year offered.

Exhibit X-235 is entitled "Cost of money to Bell System, railroad and public utility companies and yield to public on bonds issued in years 1923 to 1931, inclusive, classified according to investment rating when issued."

4907 The heading states the subject matter. The exhibit contains the detail for Exhibit X-233 and Exhibit X-234.

Exhibit X-236 is a chart entitled "Trend of weighted averages of bond yields on public offering price grouped by ratings (Moody's), 829 issues, 1923-1931, aggregating $13,809,000,000."

This exhibit is apparently well described on the face of it. I might say, it shows in the upper portion all of the bond issues, including the convertible issues and issues with stock purchase warrants, and in the lower portion of the exhibit, the issues excluding the convertibles and those with stock purchase warrants.

Exhibit X-237, is entitled "Average yield on bonds sold during years 1923 to 1931, inclusive, classified according to investment rating when issued, Bell System, railroads, pub-

lic utilities, industrials and others—includes issues of $5,000,000 or over—yield based on offering price."

This exhibit contains the details graphically presented in X-236.

4908 Exhibit X-238 is a chart entitled "Trend of averages of bond yields on re-sale, from date of issue to 1931, grouped by ratings (Moody's) on public offering."

This exhibit I believe is self-explanatory. It is a graphic presentation of the details shown on Exhibit X-239.

Exhibit X-239, consisting of three pages, is entitled "Average bond yields based on re-sale prices during each year, 1923 to 1931, inclusive, Bell System, railroads, public utilities, industrials—based on high and low market prices of issues of $5,000,000 and over."

It contains the data on which X-238 is based.

Exhibit X-240 is a chart entitled "Trend of averages of bond yields on re-sale from date of issue to 1931 grouped by ratings (Moody's) in year of re-sale."

This is a graphic presentation of the details shown in Exhibit X-241.

Exhibit X-241, consisting of three pages, is entitled
4909 "Average bond yields based on resale prices during each year 1923 to 1931, inclusive, Bell System, railroads, public utilities, industrials—based on high and low market prices of issues of $5,000,000 and over."

This is a tabulation which contains the figures on which X-240 is based.

Exhibit X-242 is entitled "Trend of averages of bond yields on resale from date of issue to 1931, grouped by ratings (Moody's) in year of resale."

It is a graphic presentation of the data shown in Exhibit X-243.

Exhibit X-243, consisting of seven pages, is entitled "Average yield on resale of bonds 1923 to 1931, inclusive; yields on cumulative classification (according to investment rating) showing average yield in each year on all bonds of the same class issued in 1923 and in subsequent years to and including the indicated year of resale."

The heading states the subject matter. The exhibit contains the figures on which Exhibit X-242 is based.

4910 Exhibit X-244 is a chart entitled "Trend of averages of yields of bonds issued in years 1923 to 1931,

resold in each year grouped by ratings (Moody's) in year of resale."

This exhibit is a graphic presentation of the data shown in Exhibit X-245. It gives in final form the picture of the securities, and the market, for the period including 1931:

Exhibit X-245, is entitled "Weighted average yield on resale of bonds, 1923 to 1931, inclusive, showing weighted average yield on each class, including resales of all bonds issued from 1923 to year of resale—year of Resale and Yield."

This exhibit contains the figures on which the preceding chart, Exhibit X-244 is based.

Exhibit X-246 is a chart entitled "Range of averages of bond yields on public offering price; grouped by ratings (Moody's), 829 issues, 1923 to 1931, aggregating $13,809,000,000."

4911 The heading states the subject material. It is the graphic presentation of the data shown in Exhibit X-247.

Exhibit X-247 is entitled "Range of averages of yields on public offering price of bonds grouped by investment ratings (Moody's) 1923-1931, inclusive, showing the highest average yield on any issue within its class, and the lowest average yield on any issue within its class, based on offering price. (Includes convertible issues and issues with stock purchase warrants.)"

This includes the figures in detail which are presented in graphic form in Exhibit X-246.

Exhibit X-248 is a chart entitled "Range of averages of high and low bond yields on resale from date of issue to 1931 grouped by ratings (Moody's) in year of resale."

It is a graphic presentation of the data presented in Exhibit X-249.

4912 Exhibit X-249 consisting of four pages, is entitled "Range of averages of high and low bond yields on resale prices grouped by investment rating (Moody's) in year of resale 1923 to 1931, inclusive, showing an average of the highest yields established during the year on all issues in each class, compared with an average of the lowest yields established on all issues in the class."

This exhibit contains the figures that are presented in graphic form in Exhibit X-248.

Exhibits X-227 to X-249 are concerned with bonds.

I have also made a study of the average yield on common stocks grouped according to Moody's investment rating of the companies' bonds, and that study is reflected in Exhibit X-250.

X-250 is a chart entitled "Public Utilities—average yield on common stocks compared with average yield on
4913 bonds, grouped according to Moody's rating of the companies' bonds."

A study was made of the average yield on common stocks grouped according to Moody's Investment rating of the company's bonds. The average yield on stocks is based on the average of the high and the low market price for each year and the cash dividends paid thereon. The result is shown in graphic form in Exhibit X-250. The data on which this chart is based are contained in Exhibit X-251. The source of this data is from Moody's Investment Manual.

Exhibit X-251 consisting of two pages is entitled "Public utilities.—Average yield on common stocks compared with average yield on bonds." This comparison includes only those companies issuing bonds from 1923 to 1931, inclusive
(in amounts of $5,000,000 or over), whose stocks have
4914 been traded in open market. The stocks of these companies have been grouped according to the investment rating of the companies' bonds.

This exhibit contains the figures on which Exhibit X-250 is based.

I have also made a study of the sources of funds invested in fixed capital of public utilities operating in the City of Chicago, particularly the Illinois Bell, the Commonwealth Edison Company and the Peoples Gas Light and Coke Company, and such study is reflected in Exhibit X-252, which is a chart entitled "Source of funds invested in fixed capital—public utilities operating in City of Chicago."

I made a study of the sources of funds from various sources used by these companies. The result of the study is embodied in two exhibits, X-252, being a graphic presentation of the data shown in X-253. The sources of the data
shown in these two exhibits are the records of the Illi-
4915 nois Commerce Commission, and Moody's Manuals.
The exhibits I believe are self-explanatory.

I have furnished a copy of this exhibit to the plaintiff, and

my working papers showing the details are available to the plaintiff.

Exhibit X-253 consisting of three pages is entitled "Source of funds invested in fixed capital in Illinois Bell Telephone Company." That is the exhibit which shows the detail for Exhibit X-252.

In connection with the Illinois Bell Telephone Company, I have made a further study of the source of funds invested in fixed capital, which was more extensive than the study shown in Exhibit X-252, in that it covers the period from 1913 to 1931, whereas Exhibit X-252 covers only the
4916 period from 1927 to 1931.

I obtained the figures in connection with the Commonwealth Edison Company, from Moody's Manuals, checked with the reports filed with the Illinois Commerce Commission. These are the Moody's Manual figures fur-
nished by the company. So far as I know, there has
4917 been no charge-off of surplus as yet.

Exhibit X-254 is a chart entitled "Illinois Bell Telephone Company—source of funds invested in fixed capital." This includes the years 1913 to 1931, inclusive. The result of the more extensive study of the Illinois Bell history is shown in Exhibit X-255, entitled "Illinois Bell Telephone Company—entire company—investment in Fixed Capital compared with total capital obligations and surplus, years 1913 to 1931, inclusive." The data shown in both Exhibit X-254 and Exhibit X-255 were taken from the books of the Telephone Company.

Exhibit X-255 has already been described sufficiently.

I also made a study of the average funds used in the business of the Illinois Bell, the Commonwealth Edison Company and the Peoples Gas Light and Coke Company.
4918 This study is reflected in Exhibit X-256 and Exhibit X-257. Exhibit X-256 is entitled "Average cost of funds used in business of Illinois Bell."

The data concerning the Illinois Bell Telephone Company are data taken from exhibits already presented in this case. The information concerning the Commonwealth Edison Company and Peoples Gas Light and Coke Company was taken from Moody's Manual, and checked with the reports to the Illinois Commerce Commission.

Exhibit X-257 is entitled "Average yield on bonds of Illi-

nois Bell Telephone Company and on bonds of other public utilities operating in Chicago (exclusive of transportation companies) years 1923 to 1931."

The heading states the subject matter. I might say that all of the figures thereon that relate to the yield on the
4919 Illinois Bell bonds, and of the Commonwealth Edison and Peoples Gas Light and Coke Company, were taken from Moody's Manuals. The three lines on the lower part of the sheet are a reproduction of figures appearing in Exhibit X-256, merely used here for comparative purposes.

I have also made a study, for the years 1921 to 1931 of securities issued under the authority of the Illinois Commerce Commission and its predecessor, in comparison with all public utility issues in the United States.

That study is reflected in Exhibit X-258 entitled "Securities issued under the authority of the Illinois Commerce Commission and its predecessor in comparison with all public utility issues in the United States."

4920 This is a study which shows for the years 1921 to 1931, both inclusive, the securities issued under the authority of the Illinois Commerce Commission and its predecessor, in comparison with all public utility issues in the United States, as shown in the exhibits developed in these studies.

The issues authorized by the Illinois Commerce Commission, which are the subject matter of this study, aggregate $464,000,000. The total for the entire country including Illinois utility issues is $7,504,087,000.

My working papers showing the detail for this exhibit, are available to the plaintiff.

4921 I also made a study of the yields on the common stock of the Bell System Companies, 1921 to 1931, as shown on the exchanges, and for the American Telephone and Telegraph Company, for the period 1901 to 1931, based on data in Moody's Investment Manual, and the results of this study are shown in Exhibit X-259, and Exhibit X-260.

Exhibit X-259 is entitled "American Telephone and Telegraph Company—Common stock—High and low selling prices and yields, 1901-1919"—page 1; and on page 2, "American Telephone and Telegraph Company—Common stock—High and low selling prices and yields, 1920-1931."

I believe it is self-explanatory.

Exhibit X-260, is entitled "Yields and average yields on high and low market prices of common stocks of Bell System Companies sold on exchanges during years 1921-1931, inclusive."

I think it is self-explanatory. The descriptive matter on the exhibit I think fully explains the contents.

4922 Exhibit X-261, entitled "Amount of and high, low and average annual yields on all bonds of Bell Telephone system, Railroads, Public Utilities and Industrial corporations, issued in amounts of five million dollars and over, maturing in five years or more from date of issue, years 1921-1931, inclusive, issues from 1923-1931, incl., being classified according to Moody's ratings," and X-262, entitled "Statement showing all bonds of Bell Telephone System, Railroads, Public Utilities and Industrial corporations issued during years 1921-1931, incl., in amounts of five million dollars and over, maturing in five years or more from date of issue, name of issuing company, amount of issue, interest rate, offering price, high and low resale price and average annual yield," are books which contain all of the detail underlying the Exhibits X-227 to X-260, which are being offered in connection with my testimony.

All of these Exhibits X-227 to X-226 have been very carefully checked, and I believe that they are correct.

(Exhibits X-227 to X-262, both inclusive, offered in evidence. Ruling reserved until the cross-examination.)

R. C. RAINWATER, recalled as a witness on behalf of the defendants, having been previously duly sworn, testified further as follows:

4937 *Direct Examination by Mr. Goldstein.*

(June 14, 1932.)

4938 In my opinion, the computations made in each of the exhibits about to be offered in evidence, X-272 to X-304, are correct, and the facts contained therein are correctly taken from the sources indicated.

Exhibit X-272, entitled "Rate of interest on capital stock installments paid by Ill. Bell to A. T. & T. converted into

average return to stockholders of A. T. & T. on their investments in capital stock of A. T. & T. during years 1920 to 1930, inc.," was taken from the books of the Illinois Bell, and from Exhibit X-108 and is self-explanatory.

Exhibit X-273, entitled "Return on Investment (capital stock issued, capital stock installments and loans) from dividends on capital stock issued, interest on capital stock installments and interest on loans of Ill. Bell during years 1920 to 1930, incl.," investment in capital stock issued was taken from X-124; capital stock installments from the books of the Illinois Bell; loans from X-131; dividends on capital stock from the reports of the American Telephone & Telegraph Company to the Illinois Commerce Commission; interest on capital stock installments from the books of the Illinois Bell; interest on the loans was computed from X-131.

Exhibit X-274, entitled "A. T. & T. Co.—Return on Investment (Capital stock issued, Capital Stock Installments, and Loans) from Dividends on Capital Stock Issued, Interest on Capital Stock installments, interest on loans, and Undivided Profits of Illinois Bell Tel. Co., during Years 1920 to 1930, inc.," is computed from X-273, with the addition of the undivided profits which were computed from the annual reports of the Illinois Bell to the Illinois Commerce Commission, 4989 and allocated to the American Telephone & Telegraph Company on the basis of stock ownership.

Exhibit X-275, entitled "A. T. & T. Co.—Percentage of Undivided Profits, Allocable to A. T. & T. Co. Stock Ownership, to investments by A. T. & T. Co. in Common Stocks of Licensee Companies, during years 1920 to 1930, incl.," was taken from pages 300 and 301 of the annual reports of the licensee companies to the Interstate Commerce Commission and allocated to the investments of the American Telephone & Telegraph Company in the stocks of the various companies on the basis of the stock ownership, computed from X-124.

Exhibit X-276, entitled "A. T. & T. Co.—Percentage of Undivided Profits of Licensee Companies to investments by A. T. & T. Co. in common stocks of Licensee Companies, converted into Average Return to Stockholders of A. T. & T. Co. on their investment in Capital Stock of A. T. & T. Co. during years 1920 to 1930, incl.," was computed from X-275 and X-108.

The source of X-277, entitled "A. T. & T. Co.—Percentage of Dividends and Undivided Profits of Licensee Companies to investments by A. T. & T. Co. in common stocks of Licensee Companies, during years 1920 to 1930 inclusive," was X-275, and the dividends were taken from the annual reports of the American Telephone & Telegraph Company to the Illinois Commerce Commission.

Exhibit X-278, entitled "A. T. & T. Co.—Percentage of Dividends and Undivided Profits of Licensee Companies to Investments by A. T. & T. Co. in Common Stocks of Licensee Companies, Converted into Average Return to Stockholders of A. T. & T. Co. on their investments in capital stock of A. T. & T. Co. during years 1920 to 1930, incl.," was computed from X-277 and X-108.

Exhibit X-279, entitled "A. T. & T. Co.—Percentage of Undivided Profits Allocable to A. T. & T. Co. stock ownership to Investments (Stock and Loans) by A. T. & T. Co. in Licensee Companies during years 1920 to 1930, inclusive," was computed from X-275 and X-131.

Exhibit X-280, entitled "A. T. & T. Co.—Percentage of Undivided Profits of Licensee Companies to Investments (Stocks and Loans) by A. T. & T. Co. in Licensee Companies, converted into Average Return to Stockholders of A. T. & T. Co. on their investments in capital stock of A. T. & T. Co., during years 1920 to 1930," was computed from X-279 and X-108.

Exhibit X-281, entitled "A. T. & T. Co.—Percentage of 4940 Dividends, Interest, and Undivided Profits of Licensee Companies to Investments (Stock and Loans) by A. T. & T. Co. in Licensee Companies, during years 1920 to 1930," was computed from X-278, X-280 and X-131.

Exhibit X-282, entitled "A. T. & T. Co.—Percentage of Dividends, Interest, and Undivided Profits of Licensee Companies to investments (Stock and Loans) by A. T. & T. Co. in Licensee Companies, Converted into Average Return to Stockholders of A. T. & T. Co. on their investments in Capital Stock of A. T. & T. Co., during years 1920 to 1930, inclusive," was computed from X-281 and X-108.

In X-283, entitled "A. T. & T. Co.—Dividends on Capital Stock and Undivided Profits Allocable to A. T. & T. Co. Ownership Related to Investment in Capital Stock and Surplus allocable to A. T. & T. Co. ownership of Ill. Bell Tel. Co., of

all Licensee Companies, and of all Licensee Companies Exclusive of the Ill. Bell Tel. Co., during years 1920 to 1930, incl.," the dividends were taken from the annual reports of the American Telephone & Telegraph Company to the Illinois Commerce Commission; the undivided profits were taken from X-275; the investment in capital stock was taken from X-124; the corporate surplus was taken from page 300 of the annual reports of the licensee companies to the Interstate Commerce Commission and was allocated to the American Telephone & Telegraph Company on a basis of stock ownership indicated in X-124.

Exhibit X-284, entitled "A. T. & T. Co.—Return on Investment (including Surplus) in Ill. Bell Tel. Co., in All Licensee Companies, and in All Licensee Companies exclusive of Ill. Bell Tel. Co. during years 1920 to 1930, incl.," was taken from X-283 and X-131, and the information as to the capital stock installments was taken from the books of the Illinois Bell.

4941 Exhibit X-285, 28 pages, is entitled "American Telephone & Telegraph Company—Excess of Return to A. T. & T. from Investment in Illinois Bell Telephone Company over Average Return from Investment in Other Licensees, showing Excess of Dividends, of Interest on Loans, of Interest on Capital Stock Installments, and of Undivided Profits."

Exhibit X-286, entitled "American Tel. & Tel. Co.—Percent of Undivided Profits and Dividend Payments to Capital Stock during years 1920 to 1930, incl.," shows the earnings on the average capital stock of the American Telephone & Telegraph Company as shown in the annual reports of the American Telephone & Telegraph Company, to its stockholders and the Bell Telephone Securities Manual, broken down into the per cent of earnings paid out in dividends and the undivided profits applicable to such stock, excepting that in X-286

4942 there is also taken into consideration the amortization charges which the American Telephone & Telegraph Company has charged to surplus, but which Mr. Heiss in his statements of the cost of funds included as an expense. The figures in column 1 were taken from X-105. Capital stock and dividend rates were taken from X-108. The computations are self-explanatory.

Exhibit X-287, entitled "A. T. & T. Co.—Return on Funds used in Business, years 1920-1930, incl.," consisting of two sheets, is a combination of A-164 which shows the annual cost

of funds, that is, the annual amount of earnings paid out by the American Telephone & Telegraph Company, plus the undivided profits, related to the funds used in the business.

It was taken from X-108 and X-286.

Exhibit X-288, entitled "A. T. & T. Co.—Summary of Capital Stock outstanding, during years 1920-1931," incl.," was taken from the Annual Reports of the American Telephone & Telegraph Company to the Illinois Commerce Commission.

Exhibits X-289, entitled "A. T. & T. Co.—Changes in Capital Stock Outstanding since 1922," shows the changes in
4943 the capital stock outstanding since 1922, and shows the character of the transactions resulting in the sales.

The sources of this were Standard Statistics (Bulletin A-37 Revised of American Telephone & Telegraph Company), Annual Reports of the American Telephone & Telegraph Company to the Illinois Commerce Commission and data furnished by the American Telephone & Telegraph Company.

Exhibit X-290 entitled "Percent of Undivided profits and Dividend Payments to Capital Stock Long Lines Division during the years 1920 to 1930, inclusive" shows the percent of the undivided profits and dividend payments, related to capital stock allocated to Long Lines Division, on the basis of X-104, furnished by the American Telephone & Telegraph Company with the addition of the amortization charges to surplus which were added to conform to the total charges shown in X-108.

The Annual Reports of the American Telephone & Telegraph Company to the Interstate Commerce Commission and to the Illinois Commerce Commission do not show the revenues and expenses of the Long Lines Department apart
4944 from the other operations of the American Telephone & Telegraph Company.

The income and expense statement of the American Telephone & Telegraph Company, as a whole are shown in the Annual Reports to the Interstate Commerce Commission, and a footnote appears in connection with these statements in the language as follows:

"This company, in addition to conducting long distance telephone operations, maintains a general financial and administratiive organization for the benefit of the Associated Bell Companies. The foregoing revenue schedule, therefore,

includes, in addition to telephone operating revenues, revenues received under license contracts, under which instruments, and financial, engineering, commercial, legal, accounting, and other services are furnished to such associated companies. The expense schedule includes all the expenses, classable under those accounts, incurred in connection with such activities. For this reason any operating ratio shown in this schedule would be without significance and would not be
4945 comparable with that of a company whose activities are confined strictly to telephone operations."

I have another exhibit to be offered as X-301, which shows the return on fixed capital investment in the Long Lines.

"Q. X-291, entitled 'A. T. & T. Co.—Percent of Undivided Profits and Dividend Payments to Capital Stock—Holding Company during years 1920 to 1930, incl.,' consists of two sheets, and is the return to the American Telephone & Telegraph Company stockholders resulting from the Holding Company operations which Mr. Heiss has shown in X-104. The data which does not appear in X-104 came from X-108, is that correct?

A. That is true."

Exhibit X-292, entitled "A. T. & T. Co.—Percent of Undivided Profits and dividend payments to Capital Stock—License Contract Division during years 1920 to 1930, incl.," consisting of two sheets, shows return to the American Telephone & Telegraph Company stockholders resulting from license contract operations, as shown in X-104. The data which does not appear in X-104 came from X-108.

Exhibit X-293, entitled "A. T. & T. Co.—Investments in Capital Stock of Western Electric from Nov. 17, 1915, to Dec. 31, 1930," shows X-99 translated into return to the American Telephone & Telegraph Company's stockholders, and also includes the return on the American Telephone & Telegraph Company's holdings in preferred stock. It shows
4946 the return to the American Telephone & Telegraph Company on its investment in stock in the Western Electric Company. The data from which this exhibit was computed is shown in X-294, except as indicated in the footnote.

Exhibit X-294, entitled "A. T. & T. Co.—Return on Investments in Capital Stock of Western Electric, during years 1916-1930, incl.," was taken from the records of the American Telephone & Telegraph Company.

Exhibit X-295, entitled "Western Electric Company—Return to Stockholders on Capital Investment," consisting of twenty pages, shows the return from dividends on stock of the Western Electric to the Western Electric investors, including the American Telephone & Telegraph Company, on the basis of cash put into the Western Electric. The data shown in X-295 was taken from City's Exhibit 59, appearing in record volume VI, pages 2064 to 2067, and also from the Annual Reports to the stockholders of the Western Electric Company, Inc., from 1916 to 1930, and also from the Annual Reports to the stockholders of the Western Electric, an Illinois corporation, from 1909 to 1915, inclusive, from D-77 and from a certified copy of the articles of incorporation of 4947 the Western Electric, Inc., and the amendments thereto.

In connection with these sources, it is important to note the amendment to the Articles of Incorporation of September 29, 1925, which contains the following:

"The capital of the corporation shall be at least equal to the sum of the aggregate par value of all issued shares having par value, plus $5 in respect of every issued share without par value, plus such amounts as from time to time, by resolution of the Board of Directors, may be transferred thereto, and such capital shall be not less than $52,500,000.00."

Column 3, entitled "Shares of Bonus Stock Outstanding," represents the two thousand shares stated in record, Volume VI, page 2067, to have been acquired by the American Telephone & Telegraph Company as a result of the transaction by which the Western Electric received the manufacturing contract of 1882, and the stock dividends thereafter declared applicable to such stock. The other columns are self-explanatory. For the period 1916 to 1930, Average Annual Re-
4948 turn to the company's investors on all capital stock issued is treated on two bases.

Basis 1 is shown on page 3, and basis 2 on page 14. The necessity for using two bases arises from the fact that in November, 1915, the American Telephone & Telegraph Company and the minority stockholders exchanged 150,000 shares of par value common stock for 150,000 shares of preferred stock redeemable at $120 per share plus 150,000 shares of no par value common stock.

In 1917, 150,000 additional shares of preferred stock were issued which was redeemable at $120 per share.

In 1920 the 300,000 shares of preferred stock were retired at $120 per share, and at the same time 200,000 shares of new common stock was issued to the same stockholders at $180 per share.

Basis 1 treats the retirement of the preferred stock as a distribution of cash, and the subscription to the common stock as a separate transaction.

Basis 2 treats the retirement of the preferred stock at $120 a share and the subscription to the common stock at $180 a share as an exchange of one share of preferred stock for 4949 two-thirds of a share of common stock. Page 19 shows the earnings available for the common stock as shown in the annual reports of the Western Electric Company related to capital and surplus.

The other sheets of this exhibit show the return from the dividends on the investment of the stock investors in the various issues from 1916 to 1930. They also show the extent to which the dividends paid out by the Western Electric for the period 1916 to 1930 came from current earnings, or earnings accumulated prior to the organization of the company in 1915.

Exhibit X-296, entitled "A. T. & T. Co.—Percents of return on investment from all operations — classified during years 1920 to 1930, incl.," was computed from X-286, X-290, X-291, X-292, X-294, X-284 and X-145.

It shows the per cent return on investment from all operations, classified, and compares the return of the Illinois Bell with that of other licensees. It shows the break-down of the return on entire company transactions, as shown in X-287, into the return from various classes of operations of the American Telephone & Telegraph Company. Items 1, 4 4950 and 5 are the main divisions making up item 6. Items 2 and 3 are subdivisions of item 1.

Exhibit X-297, two sheets, entitled "A. T. & T. Co.—Percents of return on Capital and Surplus from all operations—classified during years 1920 to 1930, incl.," shows the conversion of X-296 into a return on capital and surplus.

Exhibit X-298, entitled "A. T. & T. Co.—Percent of return on capital stock from all operations—classified during years 1920 to 1930, incl.," shows the conversion of X-296 into a return on capital stock.

Exhibit X-299, entitled "A. T. & T. Co.—Percentages of Return of Licensee Companies on Average Fixed Capital and Materials and Supplies, years 1920 to 1930, incl., and year ended Dec. 31, 1931," is self-explanatory, and was prepared from the sheets of each of the annual reports of each of the licensee companies to the Interstate Commerce Commission, entitled "Comparative General Balance Sheet, Income Account, Telephone Operating Revenues, and Telephone Operating Expenses."

Exhibit X-300, entitled "A. T. & T. Co.—Percentages of Return of Licensee Companies on Average Fixed Capital and Materials and Supplies, less Average Accrued Depreciation years 1920 to 1930, incl., and year ended Dec. 31, 1931," is two sheets prepared from the same source as X-299, and is self-explanatory.

4951 Exhibit X-301, entitled "Comparison of Revenues, expenses and return on investment in Long Lines years ended Dec. 31, 1920 to 1930, incl.," was taken from X-207, X-208, X-104, X-105, and from the records of the American Telephone & Telegraph Company.

This exhibit shows the return on the fixed capital, material and supplies for Long Lines Department, and is the exhibit to which I referred in connection with my earlier exhibit of the Long Lines, investment represented by capital stock and surplus.

Exhibit X-302, entitled "A. T. & T. Co.—Return on Fixed Capital, including General Equipment for Ill. Bell Tel. Co., for all Licensee Companies, and for all Licensee Companies Exclusive of Illinois Bell Tel. Co. years 1920 to 1931," was prepared from X-299 and X-300, and is self-explanatory.

I made a comparison of the per cent of return on the fixed capital of the licensee companies, as shown in Exhibit X-302 and as shown in the American Telephone & Telegraph monthly statistical report CR-51-A, for the years 1920 to 1931.

Exhibit X-303, entitled "A. T. & T. Co.—Comparison of percent of return on fixed capital of all Licensee Companies, as shown in Exhibit X-302 and as shown in A. T. & T. Co. monthly statistical report of C. R. 51-A, years 1920 to 1930, inclusive, and year 1931," shows the comparison and shows the difference between the two.

4952 The CR-51-A reports were not made available to me until after the taking of the depositions in New York in

December, 1934, and the MR reports underlying CR-51-A were not made available until May, 1932.

(Counsel for defendants states that on September 8, 1931, Mr. Goldstein made the request of Mr. Heiss to make available M. R. reports Nos. 1, 2 and 3 for each of the Associated Companies, for each year, 1923 to 1930, inclusive, and that refusal was made by letter of Mr. Bracelen, dated September 22, 1931.

4957 Counsel for plaintiff states that counsel for defendants thereafter made application to the court for leave to see those reports; that was argued before a full bench, and the motion was denied. That later the plaintiff used certain information from these reports, and that defendants insisted upon their right to see them, and that after long argu-

4958 ment plaintiff finally, in order to avoid having any technical question arise on which there might be a reversal after this prolonged trial, allowed them to see everything they wanted to see and to copy everything they wanted to copy.)

4972 With the use of CR-51-A reports, M. R. reports and CR-64-A, from which the data in CR-51-A reports was compiled, or could be checked, or was a basis of check, I would have been able to make the comparison shown in Exhibits X-299, X-300 and X-302 without the necessity of making the computations from the Interstate Commerce Commission reports.

4974 The information was taken from certain pages of the annual reports to the Interstate Commerce Commission, of the licensee companies, and it took two men approximately six weeks to work out the entire statement.

I checked the figures shown in X-302 with the figures

4975 shown in C. R. 64-A, which was made available to me on May 23, 1932.

4976 I checked the total plant in service as of June 30, for the years 1923 to 1931, inclusive, with the average fixed capital shown in X-302 and found the following per cent of differences:

1923, 4.31 per cent; 1924, 4.44 per cent; 1925, 4.40 per cent; 1926, 3.94 per cent; 1927, 1.83 per cent; 1928, 2.90 per cent; 1929, 3.13 per cent; 1930, 1.85 per cent; 1931, 2.20 per cent. This per cent of difference was the excess of the figures shown in X-302 over the average plant in service shown in C. R.

64-A; the differences being due partly to the fact that
4977 our figures included general equipment, while the figures shown in C. R. 64-A did not.

The computations which I made from the Interstate Commerce Commission reports were from the four sheets which I have mentioned, and involved the use of seventeen hundred odd sheets, which are exhibited in the court.

I did not have all of the annual reports, I just had those four sheets which were sent to me by the Interstate Commerce Commission.

I made a comparison of the per cent of return on fixed capital of the Illinois Bell, as shown in X-302, and as shown in the Illinois Bell monthly report for the years 1922 to 1931, inclusive.

The result of the comparison, the differences, and the explanation of the differences is shown in Exhibit X-304, entitled "A. T. & T. Co.—Comparison of Per Cent of Return on Fixed Capital of Ill. Bell Tel. Co. as shown in Exhibit No. X-302 and as shown in Ill. Bell Tel. Co. Monthly Report No. 1, years 1922 to 1930, inclusive, and year 1931."

4978 (Exhibits X-272 to X-304 offered in evidence. Ruling reserved until after cross-examination.)

IN THE

District Court of the United States

FOR THE NORTHERN DISTRICT OF ILLINOIS, EASTERN DIVISION.

ILLINOIS BELL TELEPHONE COMPANY, Plaintiff,

vs.

G. GALE GILBERT, J. PAUL KUHN, WALTER H. WILSON, WILLIAM M. BRINKMAN, PHIL W. COLLINS and PAUL SAMUELL, the persons constituting the Illinois Commerce Commission of the State of Illinois, and OSCAR E. CARLSTROM, Attorney General of the State of Illinois, Defendants,

and

CITY OF CHICAGO, a municipal corporation, Intervenor.

In Equity
No. 3748.

Heard before
Hon. Evan A. Evans
Hon. George T. Page,
Circuit Judges
and
Honorable
James H. Wilkerson
District Judge.

ABSTRACT OF RECORD.

Defendant's Evidence, Second Hearing

Volume VI—(Pages 1761 to 2103)

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Corporation Counsel, City of Chicago.

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BENJAMIN F. GOLDSTEIN, and
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On behalf of City of Chicago,
Intervenor.

OSCAR E. CARLSTROM,
Attorney General of Illinois,
and

WILLIAM C. CLAUSEN,
Assistant Attorney General,
On behalf of Illinois Commerce Commission.

CHARLES M. BRACELEN,
WILLIAM H. THOMPSON,
KENNETH F. BURGESS,
EDWARD L. BLACKMAN,
On behalf of Plaintiff,

HORACE KENT TENNEY
LESLIE N. JONES,
Of Counsel.

CHAMPLIN-SHEALY COMPANY, CHICAGO [redacted]

IN THE

District Court of the United States

FOR THE NORTHERN DISTRICT OF ILLINOIS,

EASTERN DIVISION.

ILLINOIS BELL TELEPHONE COMPANY, Plaintiff, vs. G. GALE GILBERT, J. PAUL KUHN, WALTER H. WILSON, WILLIAM M. BRINKMAN, PHIL W. COLLINS and PAUL SAMUELL, the persons constituting the Illinois Commerce Commission of the State of Illinois, and OSCAR E. CARLSTROM, Attorney General of the State of Illinois, Defendants, and CITY OF CHICAGO, a municipal corporation, Intervenor.	In Equity No. 3746. — Heard before Hon. Evan A. Evans Hon. George T. Page Circuit Judges and Honorable James H. Wilkerson District Judge.

ABSTRACT OF RECORD

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4982 CYRUS G. HILL, recalled as a witness on behalf of the defendants, having been previously duly sworn, testified further as follows:

Cross-Examination by Mr. Bracelen.

(June 15, 1932.)

4983 On direct examination, I took the case of two bicycles, and used that as a simple illustration of what is done in Exhibit A-128. I would not say it was to illustrate the accounting for buildings and central office equipment. It is to illustrate the method on page 9 of Exhibit A-128 of determining the composite average life of buildings in this case. I use the simple illustration as helpful to one not versed in the subject, simply to show the difference between a group average and a unit average, as I have defined them. I think it was correct for the purpose for which I used it.

4984 I had two bicycles in service, each costing $100, one of them to last two years and the other to last four years. I assumed that there would be no salvage, so that the life determination would determine the depreciation rate. By the company's method, the average life determined was 2⅔ years. By the other method, the average life was 3 years. I do not think that I committed myself about either method. But the obvious average would be 3 years.

(Counsel reads from witnesses previous testimony as follows):

"Now, let us just see how that checks up. First take the average life of 3 years. You have two bicycles for
4985 a period of two years, and we say, the correct average life is 3 years, which would make a depreciation rate of one-third each year, and one-third of $200 each year for 2 years will be $133."

I do not prefer to refer to it simply as an alternative to the company's method. I would say, it is the correct method of getting the group average life, or it is the correct group average life. The average life of 3 years by the other method, gives a rate of 33⅓ per cent.

4986 It is not proper to call one the company's method, and the other, the other method, or the alternative

method, because the company has used both methods; the company used the group average method on Table 5, and the unit average method on Table 9 in Exhibit A-128. They are both the company's methods, but they are not consistent.

4987 In my direct examination I referred to both Table 6 and Table 9 of Exhibit A-128. Both of those tables exemplify the method of the bicycle example by which I get 2⅔ years' life. As far as Tables 6 and 9 and the use of the bicycle illustration are concerned, we may say that the company's method gives a 2⅔ years' life. On Table 5 the company uses a method which corresponds to my three-year life.

4988 In discussing it now we will call it the company's method by which in my example I get 2⅔ years, as the company does on Tables 6 and 9.

The other method which gives a life of 3 years upon the two bicycles, I said in my direct examination will produce exactly the $200 of investment. I said: "In other words, you just exactly get back your investment, which is what

4989 you want to do. Now, take the average life of 2⅔ years; you have a depreciation rate for the 2 years then of ⅜ on $200, which is $150. Then you have a depreciation rate of ⅜ for 2 years on $100, which is $75, and the sum of the two is $225. In other words you get back your $200 investment, and a bonus of $25."

By the method that the company uses on Table 6 and Table 9 in Exhibit A-128, it certainly would, in the bicycle illustration, get back $225 if it continued to apply the depreciation rate obtained from that computation. I intended the court to understand, from my testimony that the company, by its method of depreciation accounting as used on Table 6

4990 and Table 9, does get back more than the actual investment in the property. Of course, if they changed their depreciation rate next year, or the year after next, maybe they will get back something different, but as they apply the rate that they compute here to this group of property, they will get back more than the investment.

I know what the Company's method of depreciation accounting for Central office equipment and Central office buildings is. I am familiar with it. Of course, it varies as to the time when they revise their depreciation rate. Sometimes

they leave the same rate in effect for four or five years; sometimes for a shorter and sometimes for a longer time. I intended to have my testimony convey to the court the idea
that the Company, in its accounting for these two classes
4991 of property, applies a method which corresponds to my
bicycle illustration and gets back $225 for $200 of investment.

I think I heard most of Mr. Turners' testimony.

I understand that the list of offices in Table 6 of Exhibit A-128 is a complete list of the Manual Central Offices in service in the City of Chicago at the time that that list was made up. I think there were no offices included in the list that had gone out of service at the time. I assume that the Company has retired several Manual Offices in Chicago during the pe-
riod of years involved in this case, that is, since 1923
4992 down to the date of Table 6. I could not name any par-
ticular offices, but I think there have been some retired.

I was not in court a day or two ago when Mr. Goldstein introduced in evidence the entire list of Manual Offices that have been retired during this period. I think that none of the buildings—speaking of Central Office Equipment—retired between 1923 and 1929, are included in this list. As soon as a building is retired, it goes out of the average as shown on Table 6.

"Q. It is dropped from the list on Table 6; it no longer enters into Mr. Turner's computation of the depreciation, of the life that he is claiming by means of that table.

A. Well, of course now, you are talking about something he will do in the future. If he made up a table like Table 6
every year, from now on, an office that was dropped
4993 would not appear in the table, if he did it in the same
way that he did Table 6."

I doubt whether that is the Company's practice. The Company's practice in the past has been to make a study about
every four or five years, and in the meantime to let the
4994 same depreciation rate remain. I have seen their ex-
hibits showing the depreciation rates, and when they were changed. I do not think that I heard Mr. Turner's testimony on that. Exhibit A-125 shows the dates at which the various rates have been changed. If Mr. Turner, in making up Table 6 had been doing what is done in the bicycle

illustration, where a 3-year average life is determined, he would not necessarily have in Table 6, the offices that have been retired during the past years. I wish to stand on that answer.

In the bicycle case, whether the 2 year bicycle goes out of service at the end of the second year, depends on
4995 when it started its service. It goes out of service at the end of the second year from the time it started. I continue to apply, by the alternative method of my bicycle illustration, the rate based on the 3 year life to the 4 year bicycle during the third and fourth years, during the years in which the other bicycle is not there. After I have dropped out one of the bicycles, I continue to apply the rate which I got while I had both bicycles there. That is what you always do in a group average where you start with a certain group, and follow it through. That is what I would have
4996 to do on Table 6 of Exhibit A-128. You would have to continue to apply the depreciation rate corresponding to the one-third rate for the bicycle as long as any of the list of offices were in service. You continue to apply it to the offices represented in that list. I intended my bicycle illustration to be illustrative in just that way.

If, instead of bicycle, we assume two Central office buildings, one of them to have a life of twenty years, and the other to have a life of 40 years, both going into service at the same time, each of them costing $1,000,000, and neither of them to have any additions made to them through their life, that will correspond exactly with the bicycle illustration.

The average life of those two Central office buildings
4997 by the Company's method is 26.67 years. The average life by the other method of my bicycle illustration, would be 30 years.

Assuming here as in the case of the bicycle illustration that there will be no salvage on these two buildings, the de-
4998 preciation rate by the Company's method is 3.75 and $3\frac{1}{3}$ in the other. The $\frac{1}{30}$, or $3.33\frac{1}{3}$ per cent would apply to the investment in the two buildings, as it stood on the books over the 40 year period, under the method, by which in the bicycle illustration, I got a three year life.

That is, it would be accruing at the rate of $3\frac{1}{3}$ per cent on two buildings, each costing $1,000,000 during the first 20 year

period, then one of the buildings is retired having only
4999 a 20 year life, and I continue to accrue a 3⅓ per cent on the remaining building, for the additional 20 years. That is on the assumption that the two buildings go in at the same time, and come out separately. I did not make any assumption in my bicycle illustration as to when they started. The one with the 4 year life might have been in service two years, and then the other one bought, and then both in service the last two years.

During the first 20 years (in the case of buildings)
5000 we will have accrued $1,333,000 of the $2,000,000 investment. And I have left, to accrue during the remaining 20 years on the remaining building, $666,000.

That is, on the building having a forty year life, I accrue through my depreciation charges during the last half of its life, $166,000 more than half of its cost. I have to do that because on the building which went out at the end of 20 years, I was short $166,000. That is true of every class of plant on which depreciation is on a group basis, cable, poles and everything else, according to the Company's method.

By the method which we have just been discussing, I
5001 am charging for depreciation, during the life of the building, which has a life of 20 years only, $166,000 less than the cost of that building, and in order to make up that deficiency I have to charge $166,000 more on the remaining building.

By the Company's method, instead of applying the 3⅓ per cent rate at the start I apply 3.75 per cent as the rate, and continue that for the first 20 years, during which the two buildings are in service, and then one building dropping out of the computation, the rate automatically drops to 2.5 per cent, providing that you recompute it at that point. If the Company recomputed its depreciation rate on this basis every year, and used a different rate every year, of course, it would come out right. I believe I so testified.

In the case of the bicycle illustration which I put
5002 forward for simplicity of mathematics, what was just stated is correct. I stated in that illustration that if you dropped the rate at the end of the second year, or when the shortest lived bicycle went out of service, if you dropped the rate to one-quarter, you would then come out with the

exact amount of the investment, but you have to change your rate.

I do not see that the fact that the offices and buildings shown on Table 6 and Table 9 contain no buildings that have gone out of service proves that the company drops the building when they are retired from service. Exhibit A-125 shows that the same depreciation rate was applied, over periods of three or four years, without change, during which time certain buildings were dropped and certain other buildings were added, without any change in the depreciation rate. Now, where that occurs, the discrepancy to which I have referred, will creep in.

Mr. Turner, in the exhibit to which I related my bi-
5003 cycle illustration, on Table 6, is setting up a depreciation rate there as of conditions at the time shown in the table, as at present cross-section, or a cross-section as of that date. Now, if that cross-section changes, your rate would have to change, by that method. If Mr. Turner had put forward a table on the other method of my bicycle illustration, he would not necessarily have in such table the offices that have been retired during the past several years.

(Counsel reads from the witnesses testimony on direct examination as follows):

"Question: Now, if the average life of Central Office Equipment in Table 6, and of Buildings on Table 9, were computed on a group basis as you have defined it, instead of on an individual unit basis, would the average life be longer or shorter than that shown on the tables indicated?

Answer: If the average life were computed on a group
5004 basis it would be longer than if computed on a unit basis.

Question: How much does this difference amount to in the case of buildings, in per cent of total life figured?

Answer: In the case of buildings, the difference amounts to about 40 per cent; that if the life would be about 40 per cent longer if it were figured on a group basis, instead of a unit basis."

In the above question I was not asked as to the actual difference in the case of Central Office Equipment.

The fact is that the average life is longer in the case
5005 of Central Office Equipment, but it does not make nearly as much difference. I can work that out roughly. It

makes a difference of about 3 per cent in the case of Central Office Equipment, I believe. It makes a life of approximately 12 years, instead of 11.67. I worked it out roughly. That is all the difference it makes in the case of Central Office Equipment.

On direct examination after having stated that in the case of buildings the life would be about 40 per cent longer, I testified that the effect of this on the depreciation rate for buildings determined from the computation of average life
5006 would be to lower the depreciation rate approximately 40 per cent. I think that is correct. The average life, to get at the arithmetic of it, the average life is in the denominator of the fraction, which determines the depreciation rate. Now, if I multiply my denominator by 1.4, I am changing my fraction 40 per cent, am I not? I may be wrong, but it seems to me, if you multiply the denominator by 1.4, you are making a difference of 40 per cent instead of 28 per cent. Of course, it depends on which side up you take it, that is, whether you relate your 40 per cent to the large or the small quantity. Anyway, it is a substantial difference, we
5007 agreed on that. The difference between 40 and 28 is considerable. If you multiply the denominator of a fraction by 1.4, it makes 40 per cent difference.

Let me put it this way: If you divide the high rate by the low rate, the higher rate by the lower rate, you get a ratio of 1.4—or 40 per cent difference.

What I testified to, was that the difference between the two methods in the case of Buildings, amounts to about 40 per cent; that is, the life would be about 40 per cent higher, if figured on a group basis, instead of a unit basis, and then I said, the effect of that upon the depreciation rate would be to lower the depreciation rate approximately 40 per cent.

Here is what I mean—if I may make it clear. If
5008 you recompute this rate on a group basis, the Company's present rate is equal to the group basis rate times 1.4. Now, you can call that a 40 per cent difference, or something else, but that is the arithmetic of it. If you start with a 10 year life, no salvage, you get a rate of 10 per cent. You increase the life 40 per cent, and you have 14 years instead of 10 years, and I guess you get a rate corresponding of 7.1 per cent.

A 40 per cent reduction in the rate of 10 per cent, would have given 6 per cent, and not 7.1 per cent, but you are taking it the other way around. What I would say is that the Company's rate of 10 per cent is 40 per cent higher than the group rate of 7.1 per cent.

5009 When I testified on direct that the effect this would have on the depreciation rate for buildings determined from the computation of average life would be to lower the depreciation rate approximately 40 per cent, the statement is not quite correct. What I mean is that the Company's rate would be 40 per cent too high. The statement should have been made the other way. The company's rate is 40 per cent too high.

It was from Table 9 of Exhibit A-128, which is Mr. Turner's table for Manual Central Office Buildings, that I got the 40 per cent increase in the life that we have just been refer-

5010 ring to in my testimony. In Column I, "Rated Average Realized Life at Retirement," the figure at the foot of the column, 21.5, is the year's average life found by Mr. Turner. By my computation I got approximately 30 years. I did not work it out to the last decimal place. The thirty years is 40 per cent more than the 21.5 years.

I understand the basis of the grouping of these buildings on this table into a larger group at the top and a smaller group at the bottom of the table. I understand that the smaller group at the bottom represents buildings which will be later used for automatic. That is, Manual Build-

5011 ings that will be continued as automatic buildings, when the Manual is cutover to the dial equipment.

The larger list of buildings in the upper group are manual buildings not convertible into dial so that when the cutover is made, those buildings will have to be retired. That is my understanding of it.

The upper group, Manual Buildings that cannot be converted to dial, assuming it to conform to the company's program, shows in the column headed "C," "Estimated Year of Retirement," that the last one of these buildings will be retired in the year 1942. It seems to be right that in the lower group, buildings convertible to dial, the first one of that group will not be retired until 1974, and the last one is scheduled to remain in service until 1984.

Mr. Turner, in this study, made a separate compu-
5012 tation of the average life of each group, so that in Col-
umn I, at the sub-total point, the average life is shown to be 18.1 years. Similarly, at the foot of the second group of buildings in that same column, the average life for those is shown to be 36.6 years. The final footing of 21.5 years is the result of those two separate sub-totals, on a unit average basis.

I did not heretofore apply the same method by which I got 30 years for the entire group, or a 40 per cent increase over Mr. Turner's life, to each of these groups separately. I have done it now with the slide rule for the first group, antici-
pating that you were going to ask me that. For the first
5013 group I get 19, with the slide rule as compared with
Mr. Turner's 18.1 years of life. That is as close as I can read it.

As to the second group of buildings which will be con-
5014 vertible to Dial, Mr. Turner has 36.6 and by this other
method, as nearly as I can read it, it is about 36.55.

To deal with these actual offices shown on Table 9 by the method which in the bicycle illustration gave a three year average life for the two bicycles, and a rate of 33⅓ per cent; taking that corresponding rate for this group of buildings, my rate, based on the 30 year life which I found for the entire two groups of buildings shown on Table 9, assuming no
salvage, would be 3⅓ per cent. Applying the rate of
5015 3⅓, I would apply it to the buildings shown here as
long as any building remains in service, just as, in the case of the bicycles, I apply the same rate to the remaining bicycle, to the end of its life.

If you refer to the computation, as made by the company, I do not think it is correct to say that from 1942 on until 1984, the first date being the date when the last one of the upper group of buildings will have disappeared from the plant, and the latter date being the date of retirement of the last one of the second group, from 1942 on, I will be charging a rate of depreciation to accrue on that entire upper group of buildings, just as in the case of the two Central offices I had to collect $166,000 during the latter half of the life of the 40 year office in order to make up for a deficit of $166,000 which I had failed to accrue on the first office.

The reason is that up to 1942, the time the first group
5016 is still in service, you are making accruals in anticipation of additions to that second group of buildings before they are made, so that the two in a sense balance off. That is, under the company's method, accruals are being made during the period from 1929 to 1942 in anticipation of under-accruals against additions which will be made from 1942, to, say, 1984, additions that have not been made yet, but will be made. That is on a group basis. Now, to offset that, you have also under-accruals on the first group of buildings, the part that is now in place, which will be made up on the longer lived buildings from 1942 on. In other words, the two are consistent with each other.

I find here a life of 30 years, and I find a rate of 3½
5017 per cent, and I apply that rate of 3½ per cent to this group of buildings throughout the life of the group from now until 1984, notwithstanding the entire group of Manual Buildings in the upper half of the table will have all disappeared from the service in 1942.

I stated that in making the adjustment as I did make it, in the case of Exchange Aerial Cable and Exchange Underground Cable, I applied the method as shown in Exhibit X-154 which presents a different basis of adjustment from that used by Mr. Turner at the bottom of page 17, Exhibit A-128; that is, I used a uniform rate of growth in Column
B, and did not use the gross additions. I stated that
5018 it would be more accurate to use the gross additions. On the face of the exhibit, I did use a uniform rate of growth, and did not use the gross additions.

I testified that I actually made the adjustment in the case of Exchange Aerial Cable and Exchange Underground Cable by the method that I set forth in Exhibit X-154. I applied the method precisely as it is set forth in the exhibit, using uniform rate of growth in Column B, and not using gross additions, but what I wanted to make clear was that in using the rate of growth, I am using the rate of growth as a substitute for gross additions. That is, the rate of growth
5019 is what the gross additions would be if the rate of growth were uniform throughout that period, and if the plant had reached a stable condition.

Redirect Examination by Mr. Goldstein.

It is the company's practice to accrue depreciation in years subsequent to the actual retirement of the plant from the account, to make up deficiencies, which were not collected during the life of that item of plant.

That is true as to aerial cable, and all of the plant accounts, with the exception of the method the company applies in the Central Office Equipment and Building tables, that is the Central Office Equipment and Building tables to which I called attention.

5020 Except for Central Office Equipment, the company does the very thing about which I was cross-examined, namely, to accrue in years after the item of plant had been taken out of plant account, depreciation to make up for depreciation which was not taken into account during its life. I used that method.

Referring to Table 5 of Exhibit A-128, which is the table relating to the Kedzie office, I will draw a parallel between that table and the bicycle case.

In the bicycle case, I took one bicycle with a life of two years, and the other bicycle with a life of 4 years, and from an inspection said the average life of the group was 3 years. Now, if the problem were so difficult that you could not tell by inspection, the computation would be as follows:

You would multiply the life of two years by the one
5021 hundred dollars investment, and get two hundred dollar years; you would multiply the life of four years by one hundred dollars, and get four hundred dollar years; you would add the two numbers of dollars together, getting six hundred dollar years; and you would then divide by the total investment of two hundred dollars, getting a life of three years.

Now, that is exactly what is done in the case of the Kedzie Office on Table 5. You will notice that in column 5 of that table we have the accumulated dollar years, to the end of the year. Now, the average realized life of the equipmnt at the end of the year, for the final year 1936, is Column 5 divided by Column 6, or the accumulated dollar years divided by the total cost of the equipment installed, which in the bicycle case is six hundred dollar years divided by two hundred dollars. Now, that is a group average, and means that it gives

you a depreciation rate which, when applied to the investment each year of property in that group, will amortize the group during its group life.

In using this bicycle illustration, I am trying to ar-
5022 rive at an allowance which is to be made for the expense of depreciation. The part accruing each year is something which the owner of property, devoted to public use, is entitled to receive now, as an expense of operation. Assume to follow out the illustration, that the two bicycles were bought at the same time. Now, put yourself in the third year—the year in which the bicycle that is first bought, is out. Now, you have in service only one bicycle whose life is four years, and the depreciation rate is one-quarter, or
5025 25 per cent. If you do that to the present Illinois Bell Telephone Company plant in Chicago, you would determine the depreciation rate of the plant now in service, without any reference to the plant which was placed 10 years ago, and went out of service 5 years ago. You limit your depreciation rate to the average rate of the plant now in service and you get a different depreciation rate from what the company does, by its computation; you get a lower rate.

5027 The fact is that the group of property now in service has a longer average life than the group of property originally placed, on which the company bases its computations of average life. That is necessarily so be-
5028 cause of what we might call the infant mortality; that is, we might take a group of poles, placed in a given year, and some of those are going out at an age less than the average life. What are left in the plant will therefore have a life longer than the life of the poles that were placed initially. Consequently if you limit your investigation to the group of plants now in service, you will have a longer life and a lower depreciation rate than you have for all of the plant initially placed. On the other hand of course if you had a rate case every year and redetermined the depreciation rate every year on the plant in service, you would never get back your initial investment. You would always be short on the infant mortality.

The company uses both methods, the bicycle method, as to a part of its account, and the other method as to other parts of the account, and not only that, but it uses the two methods

in the same account. In the case of Central Office Equipment and buildings, they used the group method, that is the method leading to the life of three years, in the case
5029 of the bicycles, on the individual offices, as concerns the retirements and future additions; and then they use a unit method which corresponds to the life of two and two-thirds years, in the case of the bicycles, for the group of offices as a whole, for the combined individual offices, and the two are in my opinion absolutely inconsistent, both in the one and in the other. The application of the two methods to the particular account, is in such a way as to give the highest depreciation rate in each case.

5031 R. C. RAINWATER, recalled as a witness on behalf of the defendants, having been previously duly sworn, further testified as follows:

Cross-Examination by Mr. Blackman.

(June 15, 1932.)

I stated on direct examination that I had spent six weeks, or some substantial period of time, in examining the reports of the Bell System Companies and the American Telephone & Telegraph Company to the Interstate Commerce Commission. That is I examined only part of those reports; I stated that I had certain pages of those reports I believe in my testimony yesterday; I did not have all of them. I think we started on that examination about the first or second week of October, 1931. It took about six weeks to make it.
5032 We examined certain schedules, called the comparative general balance sheet, income account, telephone operating revenues, and telephone operating expenses, of the companies that were listed I believe in X-299. I do not recall that we examined the report of the American Company in connection with that examination. I would not have to go to Washington for that. It is made to our Commission annually. A copy of what is filed with the Interstate Commerce Commission is filed with our Commission annually; that is the Interstate Commerce Commission's printed form is submitted to

us with a little paster on the outside with the Illinois Commission's name on it.

I don't know how many pages of exhibits have been submitted by me in the last two or three days. I have not
5033 counted them. There would not be as many as one thousand; about 200 I would say. There are about eighty exhibits and some of them are on one page, and I believe the largest was 28 pages, according to my recollection.

5034 As to the source of these exhibits: I think my testimony will show that I used the annual reports to the stockholders of the Western Electric Company; these pages that I have referred to of the Interstate Commerce Commission's reports; the report of the American Telephone & Telegraph Company to the Illinois Commerce Commission; the various documents which were offered in the previous hearings as City's Exhibits, and which were furnished by the Company; the exhibits of Mr. Heiss in the Ohio case, and the underlying papers connected with that case; sheets that were furnished to me, which were prepared in a similar manner for other years, to those sheets offered in the Ohio case; and in some few instances figures taken from the books of the Illinois Bell Telephone Company. There might have been others. I do not think I can make any general statement
5035 that will cover every item. I do not think that I had all of these sources of information in October, 1931. I cannot answer definitely which sources of information we had in October, 1931.

"Q. Can you name a single document, or a single piece of information which you obtained subsequent to Jan. 1 of this year, which you have used in any way in any of these papers which have been offered in evidence on your testimony in the last two or three days?

5036 A. I obtained some of the information from the Illinois Bell Telephone Company since January first."

I presume that all of the books of the Illinois Bell Telephone Company have been open to us at all times. I have never asked for any of their records that I have not received.

5037 I remember that there were some other documents that I obtained since January 1 in connection with these exhibits. I obtained the copies of the Interstate Commerce Commission reports, for the year 1931, only recently, in connec-

tion with some of the other documents that I used that were furnished by Mr. Heiss.

I cannot remember whether I obtained the documents furnished by Mr. Heiss before January 1st, or since. With the volume of work I have done, it would be impossible for me, without giving some study to it, to determine just the exact date the documents were received. Our work papers may 5038 show that. I don't remember. There were some other documents received after January 1st. Some of them are the C. R. 51-A report for the year, 1931. I just received that within the last week or so, and the Exhibits X-299 and X-300 were checked in this respect; that my average plant figures were checked against your M. R. reports, that I inspected here in the court the latter part of May. Those are the M. R. and C. R. reports about which there was so much discussion. I checked them the latter part of May.

I used Exhibit 51-A to check my figures against it, but 5039 I made up these figures before I saw 51-A. Most of these figures in these exhibits were not made up by me last year. We have been working on them since the first part of October, up to the date that they were turned over to the plaintiff for inspection. Some of them I completed. I would not say that most of these sheets that I have offered here were completed last year. I haven't kept any record as to when these sheets were completed, and I would not attempt to answer the question.

"Q. Well, now, you say that you used the M. R. and C. R. reports to check. Your examination of these Interstate Commerce Commission records showed you that all of the information necessary to check any of Mr. Heiss' exhibits, or ratios, and any of the ratios put in by Mr. Crunden were all contained in those Interstate Commerce Commission records, did it not?

5040 A. I don't believe the information as to the average employees was in the Interstate Commerce Commission reports. I don't believe the information as to the estimated requirements was in the Interstate Commerce Commission reports. I don't believe the information as to the provisional estimates was in the Interstate Commerce Commission reports.

Q. Well, now, neither Mr. Heiss nor Mr. Crunden used

the provisional estimates in developing any of these ratio figures, did they?

A. They used C. R. 13, and the provisional estimates are the underlying documents for C. R. 13."

Mr. Heiss used the C. R. 13's in connection with his
5041 Exhibit A-169. The ratios he used had to be developed from the figures he used. He developed his ratios on holding funds available, the ratios he had to use to prorate the losses to Chicago, to the Associated Companies, to Long Lines. I don't know of any other ratio that he developed from C. R. 13. I had the C. R. 13's prior to the time that I put in these exhibits.

I could not answer whether I had the C. R. 13's prior
5042 to January 1st of this year. I don't know. I don't remember any particular delay or difficulty in connection with getting the C. R. 13's. I know I had them at the time I prepared one of my exhibits, but the exact date I received the form I cannot remember now. They were furnished to us by the American Telephone & Telegraph people. I think counsel made the request for them. I don't recall any particular difficulty that I had in connection with getting it.

5043 The figures showing 7.42 per cent for the Illinois Bell Telephone Company for the year 1929, on Exhibit X-133, were obtained from X-132, and show a profit over and above the cost of funds of eighty-nine hundredths of one per cent; by adding the eighty-nine hundredths of one per cent of profit to the cost of funds of 6.53, the total of the two items is 7.42, shown on X-133.

The figure of interest on loans paid by the Illinois Bell
5044 Telephone Company to the A. T. & T. Company, shown on X-132, goes back to my Exhibit X-131. Somewhere along the line, in order to get this figure shown in Exhibit X-133, I had to develop the interest on loans, not only in connection with the Illinois Bell Telephone Company, but the other companies. They are all worked out on the same basis.

5045 I haven't the figures here showing what the Illinois Bell Telephone Company paid to the A. T. & T. Company for funds during the year 1929. As near as I can compute it, it would work out on the basis I have used, about 5.54 per cent.

Exhibit X-284 shows how much money the Illinois Bell Telephone Company paid to the American Company in the
5046 year 1929 as interest on advances. That is the figure I used on that exhibit to represent the payments by the Illinois Bell to the American Company for advances by the American Company to the Illinois Bell in that year. Those figures for each of the years 1923 to 1930, inclusive, are as follows:

1923	$11,280	1924	
1925	134,388	1926	$394,605
1927	221,625	1928	271,801
1929	686,659	1930	32,037

The figures shown in X-133, came from X-132, X-131
5047 and X-128. Exhibit X-131 shows the losses on the loans made to all the licensee companies, including the Illinois Bell. The Illinois Bell losses that I show for each of the years 1923 to 1930 were prorated on the basis of the average loan shown on City Exhibit 142. The loss to the A. T. & T. Company for furnishing "temporary advance" for the
5048 year 1929 to the Illinois Bell Telephone Company, I put down as $123,876.75. That loss represents the difference between what the money cost the A. T. & T. and what the A. T. & T. got. $686,659 is the figure that is shown on X-284 as the amount paid to the A. T. & T.

Referring to the report of the Interstate Commerce Commission, which I say is one of the documents that I used, the interest payments in the year 1929 show a figure in respect to the Illinois Bell of $455,545.33.

I don't think that figure represents the same thing that I was using the six hundred and some odd thousand dollars for. The difference is probably due to the average loans that I used which were furnished to me by the company in connection with Exhibit X-142.

5049 Some of the amounts which I have used in these exhibits as coming from the reports are not direct figures but are derived figures. The six hundred and some odd thousand dollars that I used for 1929 is a derived figure using the figures the company furnished me. The company furnished me with the average loans to the Illinois Bell, which I have used. They furnished me with the loss on the loans which I have used. They furnished me the rate of cost of funds which

I have used; all were computed from figures they furnished me. I don't think they furnished any rate for the use
5050 of funds, but it may be readily computed from the figures they furnished me to be 5.54.

I did not know that the rate which was used over that entire period with respect to the advances of the American Company to every company of the Bell System was the same, 5.88, without change. That rate of 5.54 is a simple computation from the figures they furnished me. I am referring to the average loans, the losses on the loans in dollars which were furnished; and they furnished the rate as to the cost of funds, and I used those combined, the three factors to get the interest received.

"Q. Did they furnish you with the information you asked for with respect to these particular matters?

A. We asked for the average loans, and they furnished those figures to us. Now, what method they used of aver-
5051 aging them, I did not go into that. I accepted them as they furnished them."

For the average loans for the year 1929 to all licensees, I have $245,788,267. For the Illinois Bell it was $12,412,500. It is shown on City Exhibit 142. The average loans came to me through counsel, and I assumed that they were fur-
5052 nished by the company. The heading in City Exhibit 142 shows average loans to each licensee company. Then in parentheses here are the words:

"Dividing the sum of the loans outstanding on the first day of January, April, July and October, by four."

I think that that information was furnished as a result of a request to the company to bring down Exhibit 142, to date. The use of those figures in the manner in which I have used them would require, for their accuracy and the reasonableness of such use, that the loans which were in existence at any date taken were the average for the entire quarter. I have some figures here before me that my working papers
5053 show that the City Exhibit 142 figure was what I just said. I have it in total for all the companies. I have it for the Illinois Bell. And the monthly average for all loans was $254,234,480, while the quarterly average was $245,788,267.

(Document marked Plaintiff's Exhibit A-218 for identification.)

If the loans were actually as indicated on Exhibit A-218 for identification, I cannot tell whether the use of the quarterly averages in the manner in which I have used them would give a figure far in excess of the average outstanding loans because I cannot tell anything about this exhibit as to what the average might be. I did not have the figure shown on Exhibit A-218 for the July 1st quarter. That had to be used
to work out City Exhibit 142, which the Company fur-
5054 nished. I haven't the details back of City Exhibit 142,
and that is what I would have to have to tell the amount of the loans as of July 1st.

This Exhibit A-218 shows the daily balance of advances and I would not undertake to give what the average was of those figures for the year 1929. Taking the amounts quarterly and dividing by four, would take in the July quarter at a figure of $20,000,000 as it appears to me, from the way the
chart is made up. I don't know whether or not that was
5055 paid off the next day. Assuming the correctness of the
chart that appears to be true. The way in which I have used the figures would presuppose that the $20,000,000 remained outstanding for the rest of the quarter, as to the amount of the principal, but as to the rate, it is a little different when we consider the way I have worked it out. I gave you a figure that worked out to 5.54. You say the rate was 5.88 in that year. That is the extent of the variation, using this method of averaging as compared to an actual daily aver-
age. I think the figure of 5.88 is correct.

5055 "Q. Now, assuming that 5.88 was the rate, and as-
suming the correctness of those figures, those figures that are set forth in the Interstate Commerce Commission report of four hundred and fifty-five thousand some hundred
dollars, you could get the average from those two fig-
5056 ures, couldn't you, the average loans?

A. If the interest figures that you showed me on the annual report represent all interest received in loans during the years—

Q. Yes.

A. From the Illinois Bell by dividing by the rate of 5.88 for the average loans could be worked out, but I don't know of my own knowledge that the other companies had all paid exactly 5.88 rate. I did not assume that at all.

Q. So, then, you undertook to compare the profits of the A. T. & T. and the financial standing and record of the Illinois Bell with other companies, using these loan payments without knowing whether they were all paying the same rates, is that a fact?

A. I assumed that they paid the same rate, but I do know—

Q. You just said you did not know whether they were paying the same rate, and that is the reason you did not use that.

A. I had no knowledge of my own they were paying a rate of 5.88, because I did not have access to the books of the other companies.

Q. Answer this question directly:

Would you, as an accountant, undertake to do what you
5057 have done in these papers, and would there be any justification for it whatever if the companies were not paying exactly the same rate on their loans?

A. That assumes that they were paying the same rate—

Q. No, answer my question, please.

A. Read the question.

Mr. Blackman: Read the question to the witness.

(The pending question was thereupon read.)

The Witness: In prorating these losses on an average—

Q. No. Please answer the question.

A. I don't know any other way to answer it.

Q. My question asks for an answer yes or no. Please give it. Read the question again, please, Mr. Stenographer.

The Witness: Read it again.

(The pending question was thereupon re-read.)

The Witness: No, it would not be justified unless they were paying the same rate, and I assumed that in these calculations."

5058 I cannot say of my own knowledge I knew it. I knew the rate was 5.88 in respect to the Illinois Bell, and I assumed that the others paid the same rate. I made up the figure of 5.54 per cent based on my computation of the average of the Bell System loans for the year 1929. There is a slight error in this figure due to the method I used of averaging the loans.

5059 "Q. Yet, you have compared those figures, which show slight increases and slight decreases with what you call

the cost to the American Company of money, and worked out figures which show that the Illinois Bell is doing two thousand per cent better than other companies, in some cases, based on these very figures and differences of fractions, isn't that a fact?

A. These companies were all on the same basis of 5.54. They are all on the same basis."

It would amount to my putting them all on the 5.54 basis, so there is no variation in it there as between companies.

I don't see how it could work any variation. They are on the same basis, all on the same basis of 5.54. That is 5060 the effect of my computations. I am comparing what they paid with the amounts it cost the American Company.

"Q. And then you take that amount and you combine it with the dividends, and you compare it with other amounts, and you are using these figures which are theoretical figures and incorrect in connection with figures that are actual and real, aren't you? And in which the same error does not occur?

A. Why, I have combined these figures with other figures of return.

Q. Figures that are definite?

A. If that is what you mean—

Q. Figures that are definite and accurate, and you have worked out percentage relationships. Now, don't you know that would be bound to get a wrong result?

A. Well, of course, to whatever extent the average loans, as I have used them, were in error, why, it would affect the final result to some extent; I don't know just how much."

I don't know whether it is a fact that is an error of 5061 $5,000,000 or forty or fifty or sixty per cent in the figure of average loans which I used for the year 1929 would make any difference in the result.

If that were shown to be the fact, I cannot say what effect it would have on the calculations, of combining various items of investments and various items of return—there are large amounts involved here, and I would not undertake to say what the effect would be in a matter of that kind.

"Q. Won't you work out for me, briefly—I don't think it will take more than a half a minute—the correct figures

for the year 1929? We have from the Interstate Commerce Commission report this figure that I have shown you
5062 here, as 5.5—$455,543.33. Now, you know the rate was 5.88. Now, as an accountant, I should think you could figure that in about thirty seconds, and tell me what the average loans were?

A. I don't think I ought to be asked to make computations on the witness stand.

Mr. Blackman: I ask the Court to instruct and direct the witness to make the simple computation.

Judge Wilkerson: You make it.

Mr. Blackman: I would like to have him figure it. If he cannot do a simple sum like that, it certainly bears on his competency."

This calculation results in a figure of $7,747,364 as the
5063 average loans. The average loans for the year 1929, which we used, is $12,412,500, as shown on City Exhibit 142. The average loans for each of the years 1923 to 1930 can be obtained by dividing the interest payments during each year by 5.88, assuming that the facts as shown in the reports are correct.

5064 (Counsel asks the witness to take down the following figures and check them and report later whether the figures stated by counsel to be correct are correct.)

Year	Witnesses Figures From City Exhibit 142.	Stated By Counsel To Be Correct.
1923	$ 200,000.00	$ 411,394.00
5065 1925	2,317,041.00	1,983,044.00
1926	6,874,656.00	7,511,837.00
1927	3,750,000.00	811,803.00
1928	4,575,776.00	5,321,803.00
1930	550,000.00	12,228.00

5069 "Judge Wilkerson: You mentioned those two figures, 5.88—you spoke of it as something that is generally and thoroughly understood?

Mr. Blackman: Yes, it is thoroughly known throughout the Bell System that that is the rate that has always been charged and is always charged to this company, and to every other company in the Bell System.

5073 Mr. Blackman: If we assume that some of these companies are not paying any rates of interest, that some of

them are not taking advantage of the discount and are paying the full six per cent, and that the rates which are not paid by some are loaded on others, what effect would that have as to the validity of the comparison? You are seeking to make an Exhibit X-131 and subsequent pages—

The Witness: I don't know just what you mean as to the validity of them.

Mr. Blackman: Please, repeat the question to the wit-
5074 ness. I think I am using very simple English language.

(The pending question was thereupon read.)

A. It would affect the exhibits to whatever extent there was a variation from that rate.

Q. As an accountant, you could just throw them out of the window, couldn't you, if that were the fact, is that right?

A. I would not say that."

5075 I certainly would not back exhibits that were not correct.

I don't think that the variation in the interest rate paid by these companies that I purport to compare, destroys all the validity of the comparison. It would impair the validity of it to whatever extent the error enters into it and the result is affected.

5076 "Mr. Blackman: Well, the slight impairment of the validity of a figure or two, where you are comparing it with a figure of 2.2 in order to develop a percentage, may result in very varying amounts, may it not?

A. What is the question?

Mr. Blackman: Read it.

(The pending question was read.)

Mr. Blackman: In widely varying amounts?

5077 A. I don't recognize 2.2 that you are talking about.

Q. I am just taking it for an illustration.

A. It would depend on the amounts, and on the factors involved. I cannot answer your question."

5078 The figure 59.53 per cent in the last line of Exhibit X-111, which is "Per cent of return on investment expressed in per cent of return to A. T. & T. Company stockholders on their average capital stock investment," is a mathematical computation using Exhibit X-108, and using a mathematical formula to convert the figure over to return to stockholders on their portion of the investment.

This is what I did: Taking the figure 39.02, shown on X 111, and referring to X 108, there is shown that
5079 the average cost of funds for the year 1923 was 6.87 per cent. That is the average cost of money to the A. T. & T. on the funds that it procured from the various sources shown in X 108. I subtracted 6.87 from 39.02, which leaves a per cent of 32.15. The next step, I divided 100 per cent by 63.39, also shown on X 108 and I get a figure of 1.5775358.

The figures I divided by are shown on sheet X 108.

I divided 100 per cent by 63.39. They are both shown. I got 1.5775358. Now, multiplying 32.15 by 1.5775358, I should get 50.74. I haven't the details here before me, but that is what it should work out to. Then I add to that the dividend rate which is included in the average cost of funds, and I get 59.53 per cent. That is the mathematics of it, the way it is worked out:

5080 In line 5, I developed a percentage figure which I call per cent of return on investment, and that is 39.02 per cent. Then, I stepped that up to 59 per cent plus, which I say is the per cent return on investment to the stockholders of the A. T. & T., by deducting the 9 per cent dividend which the stockholders received, plus the combined interest and other things which average out about 6.87, from 39.02, then by applying other figures and adding back the dividend, I get a yield to the stockholders of the A. T. & T. of 59.53 per cent.

5087 "Mr. Thompson: Before the record is closed, I have something I should like to appear of record. Your Honor will remember that a day or two ago there was quite an extended discussion in court about the balance sheet of the Graybar Electric Company for the years 1929, 1930 and 1931.

I have no doubt your Honor remembers it, I have no doubt your Honor remembers that from the end of 1928 the employees of the Graybar, the Graybar management, have owned that corporation.

Judge Wilkerson: Yes, I remember it.

Mr. Thompson: And that the Western has a participating preferred stock. Now, since the adjournment of court, although it has been our thought all the time that we were under no obligation to furnish these figures, and that they have no relation to this controversy, I obtained and I now offer in open court a balance sheet of the Graybar Electric

Company for the year 1929, one for the year 1930 and (a) one for the year 1931, together with a certificate under the seal of the assistant secretary to the method in which the accounting records of Graybar are kept, so far as relating to property of telephone apparatus, lead-covered cable and supplies is concerned.

Mr. Goldstein: Does that include all of the information that we asked for?

Mr. Thompson: I offer it to you, this is what we have obtained from Graybar, a corporation we do not own, and in which we have an interest as a participating preferred stockholder.

Now, here it is. If you want it, it is available. If you don't, you may use your own pleasure about it.

Mr. Goldstein: Excepting, Mr. Thompson, as my eye glances over this document, it contains more information than the assets and liabilities, it contains profits and losses.

Mr. Thompson: Well, it is a balance sheet.

Mr. Goldstein: Yes, but it shows profits and losses, which is entirely different than a balance sheet.

Mr. Thompson: Is your objection that we have furnished too much?

Mr. Goldstein: No, it is not. I am asking you whether (b) you are offering the profits and losses, or only the balance sheet? You stated you had a balance sheet. I am asking you whether you are offering the whole sheet, with all of the figures, or only that portion of it which has to do with assets and liabilities.

Mr. Thompson: I am not offering it. I have produced it in court for your information.

Judge Wilkerson: He produces it so you may offer it if you wish.

Mr. Goldstein: He referred to assets and liabilities, and I wondered whether, in view of the previous limitations, we are limited to looking at the lines marked assets and liabilities, or whether we can look at the whole thing.

Judge Wilkerson: Yes, Court and counsel are free to examine it all.

Mr. Haight: We acknowledge receipt of the document, and will later suggest what further we may desire in witnesses, or further facts.

5088 Mr. Blackman: We have in court this morning, if your Honor please, the Minute Books of the Executive Committee of the American Telephone & Telegraph Company. Your Honor will recollect that during the testimony of Mr. Heiss, the defendants demanded that those books be produced.

We are producing them subject to that demand, for such use and inspection as you may think proper. Now, of course, we do not think that there is any proper use. Mr. Heiss
5089 did not testify to the contents of the resolutions; he testified that he had been directed to set up these amounts for contingent reserve on the books of the Company, and had done it subject to the direction of the officers of the Company, that he had consulted with the officers; but that question was raised, and the books are here."

5090 *(Cross-Examination of R. C. Rainwater Continued.)*

5091 I explained in my direct testimony that all that I put in in Exhibit X-108 were the per cents, that were shown in the second column, and shown in the fourth column, and that I put in certain total figures immediately preceding the grand total. I knew what the statement purported to show. I knew what the figures purported to mean.

"Capital Stock Premium" on the second line of Exhibit X-108 purports to mean an amount of money paid by the stockholders in excess of par, on their capital. I explained at the close of the last hearing how we had worked out these figures on page 4 of X-108, to develop the percentage of 59.53 per cent, the last figures on X-111.

5092 On page 4 of Exhibit X-108 there is a showing of capital stock premiums of $52,296,147.

If the capital stock premiums, instead of being $52,000,000, had been $252,000,000, I cannot attempt to speculate now on what effect it would have had upon the figure of 59.53 per cent on X-111.

I would not attempt to work it out without having all of the details before me. This is a complex mathematical formula, on which this was worked out, and I would not at-
5093 tempt to rework that formula, using other figures, with-

out having the opportunity to prepare all of the figures, and work out the proper figure.

As to what effect that change would have on the percentage 59.53 in Exhibit X-111, whether it would be higher or lower, the way the figure is worked out on X-111, it would not make any difference what figure you had in your capital stock premiums, because it is worked out on the basis of the capital stock. It would not make any difference. I said yesterday that I got the figure of 59.53 by using this figure of 63.39.

5094 The 63.39 is the percentage relationship of the amount of $719,964,600, to the amount of $1,135,740,062.88. If

5095 every one of the figures opposite the lines excepting the totals, and the grand totals remained as they are, and the words "Capital Stock Premiums" had opposite, $252,000,000 instead of $52,000,000 the figure 63.39 would be less. I do not know how substantially less it would be. It would be less. I do not know whether as the capital stock premiums increased, the figure of 63.39 would continue to decrease.

5096 If all of the other figures on this particular page of X-108 were to remain constant except the totals, but you were to increase the amount of the premiums, the figure 63.39 would change. As the figure 63.39 decreases, the last figure on X-111, 59.53, would continue to increase. It would continue to increase as long as the capital stock premiums continued to increase, assuming all of the other figures except the totals were to remain stationary.

5097 The percentage 59.53 is the figure of 39.02 shown in X-111, expressed in per cent of return on investment to the American Telephone & Telegraph Company stockholders on their average stock after all of the interest and other carrying charges have been taken out.

That is, it purports to show the return to the stockholder of the American Telephone & Telegraph Company upon his investment in the stock of that company.

If the American Company were earning an 8 per cent return, and all of its stockholders had paid to the company par for their stock, I do not know what return on investment I would get expressed in per cent of return to the stockholders of the American Telephone & Telegraph Company on

5098 their average capital stock investment. If you want me to make a computation of that kind, I will be very.

glad to make all of the assumptions that you have made, and report to you what the answer is.

5099 Assuming that we have a little company with a capital of $1,000, 10 shares of $100 par, no bonds, no indebtedness of any kind, just $1,000, and the stockholders have paid in $1,000 for that capital, and assuming that the company is earning $80 a year, then the return on the investment of the company is 8 per cent.

5100 Using the same assumption, the stockholders would be getting an 8 per cent return.

Assuming that instead of paying par for stock in this little company, the stockholders paid $200 for their stock, and the company's capital structure was, capital stock $1,000, and

5101 capital stock premiums $1,000, then if the earnings were $80 per year, the company would be earning 4 per cent on $2,000 capital investment.

The company would be earning 8 per cent on its capital stock of $1,000.

Q. Will you please tell me then how you would figure, what difference that would make, in what the company was earning, and what the stockholders in the company were earning, in the way in which you have figured it.

A. Still using the $80 figure?

Q. Still using the $80 figure, yes, sir.

A. Well, if the capital stock was $2,000, and the company was earning $80, why, they would be earning 4 per cent.

Q. They would be earning 4 per cent?

A. Yes.

Q. How much on their capital?

A. How much would the stockholders be earning on the—

Q. Now, how much would the Company be earning on its capital?

Judge Wilkerson: A capital of $1,000.

Mr. Blackman: Yes, sir, the same $1,000.

Q. It would be earning 8 per cent still on its capital, would it not?

A. Yes, sir.

Q. Now, in the way in which you have figured it here,

5102 how much would the stockholders be earning on what you have said, per cent of return on investment expressed in per cent of return to stockholders on their average capital stock investment?

A. The way I have expressed it—that is, through the method I have followed here, the stockholders would also be earning 8 per cent.

Q. Would they? Would they not be earning 16 per cent, the way you have figured it? On page 4 of Exhibit X-108 you say that the capital stock of the American Company is 63.39 per cent of its total funds. Now, would not that figure be 50 per cent for the little company that we have been discussing, if it had only two items, one its capital stock, and the other its stock premiums?

A. Now, as I understood your last explanation, the total funds of the company were $2,000?

Q. $2,000.

A. Yes,—

Q. And the capital stock represents what part of those total funds?

A. 50 per cent.

Q. What?

A. 50 per cent.

Q. So then that 50 per cent would appear, if we were
5103 using the set-up on your Exhibit X-108, page 4,—that 50 per cent would appear in place of the 63.39 which you have used there, would it not?

A. 50 per cent would appear—

Q. Yes.

A. —yes, sir.

Q. Now, then, following the same method that you have followed in these exhibits, you would work out on Exhibit X-111 for this little company that the return to the stockholders is 16 per cent.

A. That is right.

Q. Yes, that is correct. Now, as a matter of fact, you and I know that instead of earning 16 per cent, they are only earning 4 per cent, are they not?

A. I do not know that to be a fact."

If they pay $200 for a share of stock, and got an 8 per cent
dividend, they would be getting 4 per cent, but I do not
5104 understand that you meant that on the capital stock investment. I was going back to the capital stock only, that is what I had in mind; that is what I was going to take.

If the people have paid $2,000 for their stock and received $1,000 par value of stock, and get $80 per year from the com-

pany, the actual return on the amount of dollars that they have put out is 4 per cent.

It is not correct to say that by the method which I have followed here, in figuring out the per cent return to the stockholders of the American Telephone & Telegraph Company, I would figure that 16 per cent.

5105 It would depend on which figure you are referring to.

I previously said that following the method which I have used here, assuming the facts with regard to this little company, the return to the stockholders, using the language which I use here, per cent of return on investment expressed in per cent of return to stockholders on their average capital stock investment, I would get 16 per cent.

I stated before, I did not work out the per cent of return on the investment of the A. T. & T. stockholders.

5109 The figure $346,548 in Exhibit X-111 came from X-110.

As I stated before, the method which I have followed
5110 applied to the little company with $2,000—$1,000 in capital stock, and $1,000 in capital stock premiums, would result in my figuring out, if I followed the method I have followed here, that the stockholders of that company were getting what I call per cent return on investment expressed in per cent of return to stockholders on their average capital stock investment of 16 per cent, although I concede that they are actually earning 4 per cent on their investments.

5115 Assuming the Company has been in business a few years and has accumulated a surplus of $1,000 so that there is $1,000 represented by 10 shares of stock at $100 each; there is $1,000 represented by stock premiums, the purchasers having paid $200 per share for their stock in-
5116 stead of $100; and there is $1,000 of surplus, and it is still making only $80 as a total per year, that means that the stockholder is getting $4 for every $100 that he paid in.

5119 To figure out the return to the stockholders on the same basis as shown in Exhibit X-111, I want to set up all of these factors in the same way as shown in Exhibit X-108.

5120 "Judge Wilkerson: What is it you are trying to do in this exhibit; what are you trying to express; are you trying to express those figures in terms of something else? Now, what are you trying to do?

A. All I was trying to do in the exhibits was, when I showed the per cent of return on investment, to state, after the interest charges and other items payable to outsiders had been taken out of that figure, how much would be available on the stock of the American Telephone & Telegraph Company; that is all I was trying to work out, based on the exhibit that they furnished me, which is A-164 in this case.

5125 Judge Wilkerson: Now, just multiply where you multiplied, and divide where you divided in this exhibit. What per cent do you get—and whether there is any analogy or not, the court will have to decide."

Assuming as in the previous illustration that the little company had $1,000 capital stock, $1,000 premium on stock paid in by the stockholders, and $1,000 surplus, and earned $80 per year, the stockholders would receive 8 per cent on their stock figuring on the basis that I have used in Exhibit X-111. The return to the company would be 2.66 per cent on all of its capital, and 8 per cent on its stock. That is 8 per cent on the capital stock and 2.66 per cent on the total investment.

5126 "Q. I did not ask you that. I said this company had a capital of $1,000, represented by 10 shares of stock of $100 each, and that it had stock premiums of $1,000, and a surplus of $1,000, and that it was earning $80—

A. Earning $80?

Q. —$80. Now, how much return is the company earning?

A. 2.66 per cent.

Q. On all of its capital?

A. That is right.

Q. How much on its stock?

A. 8 per cent.

Q. So that is 8 per cent on the company's investment.

5127 A. It is 8 per cent on the capital stock, and 2.66 per cent on the total investment of the company.

Q. All right. Now, we start with your 8 per cent on the capital stock. Now, assuming 8 per cent on the capital stock, how much would the per cent of return on investment expressed in per cent of return to stockholders on their average capital stock investment, be?

A. 8 per cent.

Q. 8 per cent?

A. Yes.

Q. You are sure of that? Would it not be three times 8 per cent?

A. No, it would not.

Q. Now,—

A. It would be 8 per cent on the—as I use it here, it would be 8 per cent.

Q. Now, refer, please, to your Exhibit X-108, page 4.

A. Yes.

Q. The first figure you develop there is the one that we have been discussing, 63.39, is that right?

A. That is right.

Q. Now, what figure would take the place of that 63.39 on the assumptions that we are making here?

A. 33.33 per cent.

5128 Q. 33⅓ per cent?

A. Yes.

Q. So that, then, according to the procedure you have used, you would use 33⅓ per cent to get from the per cent of return on investment of the company to the per cent of return on investment expressed in per cent of return to the stockholders on their average capital stock investment, would you not?

A. Will you read that question, please. I do not think I understand it.

(Question read by the reporter.)

A. In this particular instance you have cited to me, I would not need to work out any 33⅓ per cent; it would not have any bearing on the calculation that I had to make.

Q. It would not have any bearing?

A. Absolutely not.

Q. Well, now, in telling me how you got there this 59.53 per cent on X-111, did you not use the figure 63.39?

A. Yes, I did—

Q. Did you not have—

A. (Continuing) —for very obvious reasons.

Q. Did you not have to use that figure?

A. Yes, I did.

5129 Q. Yes. And that figure represented the per cent you have said which the capital stock bore to all the other items shown on that page?

A. That is right.

Q. Now, then, if in the little company I am talking about,

the capital stock was $1,000, capital stock premiums were $1,000, and the surplus was $1,000, the figure of 33⅓ per cent would take the place of the 63.39 per cent, is that right?

A. It would be—if you set up a statement similar to X-108—

Q. Yes.

A. —yes, sir.

Q. Now, then, if you had 33.33 per cent in this first line, then in proceeding as you have done, you would use 33.33 per cent instead of 63.39 per cent, would you not?

A. No, I would not need to use it at all.

Q. Well, why not?

A. Well, because the return on investment, as you have stated it, is 2.66 per cent, the average rate paid for funds is 2.66 per cent, and there is nothing to convert over at all.

It is up in the figure on the page of Exhibit X-108, of 8.79 per cent, that you get, on a comparable basis, 8 per cent,
5130 and that would still be the return to the stockholders in the American Telephone & Telegraph Company, using the method that I have used. There is no conversion to be made at all; it is the same per cent return on investment and the same per cent of cost of funds shown in X-108. They are the same thing.

Q. Did you not tell me just a moment ago, Mr. Rainwater, before we introduced the figure of $1,000 for surplus, that if the stockholders of this little company paid $200 per share into the company for the stock which they purchased, the method that you have followed here would result in figuring the return, per cent of return on investment, expressed in per cent of return to stockholders on their average capital stock investment, of 16 per cent? Did you not just say that within the last few minutes?

A. I did say that, but I am not sure that I understood all of the factors that you had in the calculation.

Q. You want to withdraw that now, do you?

A. I would like to have you state it again, and I will work it out again, and see if the figure is correct.

5131 Q. All right. We have a company with a capital of $1,000 represented by 10 shares of stock of $100 each. Now, the stockholders have paid $200 for that stock. The company is earning 8 per cent on $1,000, or $80. Now, will you please tell me first of all what return in your opinion the

company is making on its stock? Can you not answer that question? It has stock, a thousand dollars, and it is making $80. What per cent return is that on the stock? Mr. Rainwater, can you not answer that question?

A. I am trying to figure it out for you.

Q. Trying to figure it out?

A. Yes.

Q. If a company has $1,000 of stock, and is making $80, what per cent return is it?

A. I think my answer should have been, instead of 16 per cent—it should have been 8 per cent.

Q. I am not asking you that question now; I am asking you what per cent return the company that is earning $80 makes on its stock, if it has a thousand dollars of stock?

A. 8 per cent.

Q. 8 per cent?

A. That is right.

5132 Q. Now, you are sure of that?

A. Yes, that is right.

Q. Well, now, suppose it is making that same $80, and it has not only $1,000 of stock, but $1,000 of stock premiums, as well. Now, tell me what per cent on investment expressed in per cent of return to the stockholders on their average capital stock investment, you would work out?

A. If I considered the premiums, too, together with the stock?

Q. Work it out the way you have worked it here.

A. I have already answered your question.

Q. Well, answer it again.

A. I said, 8 per cent.

Q. 8 per cent?

A. Yes.

Q. Now, how do you get that; just tell me.

A. If you compare your Exhibit 108—

Q. Yes.

A. —the same setup, the total funds—

Q. Well, just—

A. —would be—

Q. Just please—

A. I am trying to explain how I got it.

Q. All right, go ahead.

A. That is what you asked me for. The total funds

5133 would be $2,000. They would have paid $80 out to the stockholders. That would be at an average cost of funds, for all funds, of 4 per cent, which is the same as their return on the investment. Now, there is no conversion to make here; it is 8 per cent for the stock. If you consider the premiums, it is 4 per cent for the premiums. That is all—on capital and premiums, it is 4 per cent; that is all that I see that there is to it.

Q. Well, now, will you just make a little sum for me, the same way you have made it here, please, and put in your first line, capital stock—that is $1,000; put in your second, stock premiums, $1,000, or a total of $2,000. Now, then, what figure do you get in your per cent column that corresponds to the first figure on page 4 of Exhibit X-108?

A. Your figure is 63.39, you are referring to now?

Q. Yes, your figure there is 63.39.

A. You would get 50 per cent.

Q. 50 per cent?

A. Yes.

Q. Now, then, will you please take your figure of 39.02 per cent on X-111, and proceed with that figure exactly as you proceeded with the figure as stated in your testimony yesterday?

5134 A. If 63.39 were 50 per cent—

Q. Yes.

A. —and all the other factors were the same—

Q. No, no.

A. —except the total?

Q. No. I am saying, you have this little company; we have your figures, and we have developed a substitute figure of 50 instead of 63.

A. You were talking just now about 39 per cent, and then you say "a little company".

Q. I say, we have—

A. (Continuing) And I do not know which one you are talking about.

Q. We have developed a figure of 50, instead of 63. Now, I want you to start in here on Exhibit 111—

A. All right.

Q. —and use 50 instead of 63, in the same manner in which you proceeded yesterday.

A. And convert the 39.02 over to the other?

Q. And convert the 39.02 to per cent of return on investment.

5135 A. All right. The figure would be 73.09.

Q. 73.09; it would be just twice, wouldn't it?

A. No, it would not be. It would be 73.09.

Q. Just give me the calculation on this.

A. The figure 39.02 is the one I am going to start with.

Q. Yes.

A. I am going to substitute 50 per cent in place of 63 per cent.

Q. Yes.

A. I am going to divide 100 per cent by 50 per cent; that is two; that is two times. I am going to subtract 6.87 from 39.02.

Q. What is the 6.87?

A. That is the cost of funds shown on this sheet.

Q. To this company? It has no cost of funds, or its cost of funds is 8 per cent, if you figure it that way.

A. What company are you talking about? Aren't you talking about the American Telephone & Telegraph, now?

Q. No.

A. With all the set of facts you have given me, and then try to apply it to 39 per cent, they have no connections at all. I could not work it out.

Q. You can apply any per cent, can't you?

5136 A. I have tried to give you, using my method, and starting with 39 per cent, to give you what you asked me for, using my X-108, and the answer is 73.09.

Q. 73.09. All right.

A. Yes.

Q. So that the amount that the company gets—the amount that the stockholders get as a return in the way you figure it is almost exactly twice the amount that the company gets?

A. It is whatever the figure is that I have stated to you, related to it. That is what it is.

Q. And, therefore, if you work that same thing back to the little company that we are talking about, and you did not have this cost of money that you have used here, the return to the stockholders on the basis that you have proceeded would be just 16 per cent, and not 8 per cent?

A. No, that is not true. It would have been 8 per cent, because you could not have even in the case of the small com-

pany a situation that it would not cost them something for their money, and the cost to that company, the cost to them for their money from all sources was 4 per cent, which happens to be identical with their return on the investment,
5137 and in arriving at that, the various items, similar to X-108, you have your 8 per cent on the stock, and that is what it still remains.

Q. Well, now, returning to your X-108, suppose the American Company had a surplus of a billion dollars instead of $110,000,000 that appears there on that sheet; can you tell me about how much that would affect the figure 59.53, as you have worked it out?

A. I will be glad to work it out for you and give you the answer. Do you mean, do it now?

Q. Can you tell by looking at it?

A. No, I cannot tell by looking at it, and I would not undertake to.

Q. Will you work it out for me, please, then, and assume these two facts: that instead of fifty-two millions of capital stock premiums, the American Company had five hundred and fifty-two millions of capital stock premiums, and that instead of $110,000,000 of unappropriated and appropriated surplus, it had just a billion dollars more than that; then tell me just how that would affect the figure that you have developed on X-111, the last figure, 59.53.

A. I cannot tell you what the answer would be without
5138 working it all out. It involves very large figures here. I would have to arrive at new per cents. I would have to carry the thing all the way through. It would take me—

Q. Take you at least ten minutes, wouldn't it?

A. Probably would, yes.

Q. Then, I will ask that it be done; not now, but at some later time.

Judge Wilkerson: Well, if he doesn't do it, your accountants can do it.

Judge Wilkerson: I understand that this exhibit purports to show what return—the annual return.

A. On the basis of this computation.

Judge Wilkerson: No, I say, you are speaking now of annual return on investment?

5139 A. That is right.

Judge Wilkerson: The purpose of this exhibit is to

show what annual return the American Telephone & Telegraph Company is receiving on its investment in telephone instruments. Now, you have got a figure of $1,077,794 as their investment in telephone instruments less the depreciation. You take that as the figure which they furnished?

A. That is right.

Judge Wilkerson: The American Telephone & Telegraph Company has that amount of investment in telephone instruments. You take its figure of 6.87, which is the average return shown by this Exhibit A-164, and you get $74,144. Now, you add to that the additional profit to the American Telephone & Telegraph Company, the corporate surplus, and you get that by taking $110,000,000 surplus shown on Exhibit 164, and taking such part of that surplus as is represented by the ratio which the $1,077,000 represents to the entire. Where do you get that figure $346,548?

A. In my Exhibit X-110.

Q. Well, no, what is it?

A. It is the difference between the cost of instruments
5140 as I have worked it out, taking into consideration all the expense, taking into consideration an element of return on the money invested, and comparing it with the company's tabulation of what they said was a reasonable allowance.

Judge Wilkerson: Do you mean to say you get an addition to surplus for a single year of that amount?

A. That is right.

5142 Judge Wilkerson: Can you make that computation? You understand what he wants. Have you got it now?

A. I have a computation here on my sheet which I think is what he wants.

Judge Wilkerson: All right.

A. I have shown what per cent it would mean to the American Telephone & Telegraph Company stockholders, if you would consider the capital stock installments, and premiums and the surplus, what this 39 per cent would be, and I have the figure here, which is 47.67 per cent.

Mr. Blackman: I am not asking for that at all. I am asking you to assume the capital stock premiums were $500,000,000 more than they were, and the surplus a billion dollars more than it was, and make the computation and carry it through for me.

5143 A. Well, I told you before that those were large figures and would require a number of computations. You told me I could do it later.

Judge Wilkerson: Well, we will take a short recess. See if you can do that.

Mr. Blackman: Have you worked out the figures, Mr. Rainwater?

5144 A. I have worked out the figure that I understood you wanted.

Q. That is the last figure on Exhibit 111. Now, the 59.53 becomes what?

A. Based on the assumptions that you have made, it would become 140.77 per cent.

Q. And that is, as the amount that the people pay for their stock, pay to the company for their stock increases, the return to them in per cent increases in the manner in which you have proceeded?

A. Well, I believe in your computation, you also added a large amount in for surplus.

Q. Yes.

A. A billion dollars for surplus, which is not according to the facts shown here.

Q. Of course not; just using it as an illustration. And the surplus works in the same direction, doesn't it?

A. Yes, if all the other factors are equal, because it reduces the cost of funds."

I will explain how it represents the cost of funds with the illustration that you gave me.

5145 I was asked to add $500,000,000 into the capital stock premiums, for instance. I was asked to add a billion into the surplus.

That increases the total money of the A. T. & T. obtained from all sources 1½ billion dollars. Now, if they did not pay any additional amounts out for dividends or interest, and those figures remain stationary, the cost for funds for that year would be reduced to 2.96 per cent, and using my illustration of 63.39, that figure would become 27.32, and dividing 100 per cent by 27.32 per cent, I would get 3.66. Then, if I subtract this cost of funds from the 39.02 shown on X-111, I get 36.06, which, multiplied by 3.66, becomes 131.98. Then when I add back the dividend of 8.79, which remains stationary, I get 140.77. I think that is what you asked me for.

The difference is due to a difference in the cost of money, and the proportions of the stock to the total of all money, those two factors.

5146 The difference in the proportion of the stock to the total funds makes the greater part of this big difference that I have shown here.

In the method that I have worked out here, the more the A. T. & T. stockholders paid into the company for their stock, the bigger the figure I would develop as the per cent of return on investment expressed in per cent of return to the A. T. & T. Company stockholders on their average capital stock investment, but I do not know that you have yourself looked at the sheets that I furnished you. In connection with a number of the sheets that I have furnished you, I worked it out also on the premiums and surplus. I considered those factors of premium and surplus in some of the sheets that I sent you, but I did not work that calculation out on every possible basis.

5147 I do not know whether any of the other bases have been put in evidence or not. I gave you a figure, though, awhile ago, compared with my 59.53.

I do not think that in these telephone instrument statements that I worked it on the other basis, but I have in some of the exhibits that I prepared.

I have not disregarded the stock premiums and the surplus. I showed right on the face of it what I took. I took the stock only. I did not take anything else.

5148 I have stated that in the computation which I have made with regard to these exhibits which is a complicated one, I find that as the surplus increases, this figure of 59.63 increases, if all the other factors remain stationary.

5149 If one paid $200 or $300 for his stock, there would be a stock premium.

If he paid $100 for the stock, there would be no stock premium.

5150 Assuming that we have $100 paid for stock at par, then there is no stock premium at all.

If you paid $110 for stock, then there would be $10 per share of premium.

If you paid $180 for stock, then there would be $80 premium per share.

As the amount of stock premiums that I deal with in my

exhibit here, increases in proportion to the stock, my figure of 59.33 would increase.

5151 I don't see how the result would differ whether it was the American Company or what company it was. There would not be any difference in the method because of the difference in the company.

"Q. No difference in the method. Now, won't you get back to that question, after you have worked this out and have seen that the increase in the surplus and the increase in the stock premiums does increase the per cent of return on investment to stockholders, as you have used it here in line 6 of Exhibit 111, and tell me whether it is not a fact that in the way you have proceeded, you would get in the little illustration that I have used an 8 per cent return to the stockholders —an 8 per cent return to the company and a 16 per cent return to the stockholder, neglecting surplus now, taking it step by step?

A. Neglecting the surplus, what do you mean by that?

5152 Q. $2,000, $1,000 for stock and $1,000 for premium.

A. There is no surplus enters into the calculation at all?

Q. No surplus at all, just the simplest possible case.

A. And the return on the investment is $80?

Q. $80, $80 on a thousand, 8 per cent on the stock.

A. And the $80 is the return on the total investment?

Q. Yes, $2,000 the company has had all told, $1,000 of which represents the stock, $1,000 of it stock premiums, and it pays a dividend to its stockholders of 8 per cent.

A. The return is 8 per cent on the stock?

Q. The return is 8 per cent, and it makes no difference in that particular case whether the stock premiums were $1,000 or $10,000?

A. Well—

Q. Is that right?

A. —I do not understand just what you mean—

Q. No, I don't think you do.

A. With your $80, if you are referring to the $80 as being the return on the $2,000.

Q. I am talking of 8 per cent as being the return to the company on its capital stock; just fix that in your mind,

5153 8 per cent is the return to the company on its capital stock. Now, the company's funds consist one-half of cap-

ital stock and one-half of stock premium. Now, I will ask you whether with those conditions, you do not inevitably work out that the return to the stockholders on the basis you used here is 16 per cent? I thought you saw it when we started the discussion.

A. The company had $1,000—just let me—I would like to have you let me explain how I get at my result.

Q. No, I do not want to know that. Just answer the question, please. We have wasted so much time on this. Tell me now whether the method I have used in developing your exhibits, applied to the simple figures I gave you, don't result in a 16 per cent return to the stockholders.

A. No, it seems to me that it results in 8 per cent.

Q. Well, then, do you think in the case of the simple illustration where we can follow the figures easily, the increasing of the stock premiums makes any difference?

A. You have not increased the stock premiums yet.

5154 If you will give me another illustration, starting to increase the stock premium—

Q. All right, I will give you another one. Now, suppose instead of the illustration I gave you, the stockholders paid $1,000 a share for stock worth $100 par, therefore the par of the company is $1,000, but the actual money paid in was $10,000, and there was $9,000 of stock premiums. The stockholders would be making about 72 per cent, wouldn't they?

A. I think I am still not quite clear on one factor that you are assuming.

Q. Yes.

A. Do you assume an 8 per cent on the $10,000 in this illustration, on the $10,000 do you assume an 8 per cent, in other words, $800?

Q. 8 per cent on its stock, Mr. Rainwater.

A. What do you assume on its entire investment?

Q. Eight per cent on its stock. That is the only figure I am giving you.

A. Well, you have to assume some return for me to compare that with.

Q. The earnings and the stock are the two figures which you use to make the comparison, and the comparison works out an 8 per cent, $80 on a thousand.

5155 A. If I understand your computation, that would work out 80 per cent to the stockholders.

Q. Eighty per cent to the stockholders. That is, you use my computation?

A. I mean the assumption which was made.

Q. And that is applying to the figures that I gave you the method that you have used in working out Exhibit X-111?

A. Yes."

Based on the assumptions of $8 a thousand or $80, these stockholders would have been earning less than 1 per cent on the amount of money that they actually put up.

The more the stockholders of the A. T. & T. Company paid for their stock, the higher would be the return to them on their investment (assuming the same dollar dividend)
5156 based on just the stock figures only which I have used here without taking the premiums and the surplus.

"Q. That is the way you have proceeded, without taking the premiums and the surplus, except to reduce the percentage of the stock to the total, is that it?

A. I have not reduced the per cent of the stock to the total at all. I have just used figures that you furnished me. I have not made any changes in them."

You furnished me the figures on which I computed the figure of 63 per cent which appears on page 4 of Exhibit 108.

You did not furnish me with that figure of 63 per cent.
5157 I do not think they are unrelated figures.

I use constant figures here. I did not increase the premiums or the surplus. I used the figures that were shown in Exhibit X-108.

"Q. Well, now, you know, Mr. Rainwater, that these figures—this figure of stock premiums is the result of moneys that have been paid for stock in excess of par, you know that, don't you?"

I don't know anything about any of these figures except what the exhibit purports on its face to show.

5158 Referring to the figures on page 4 of my Exhibit X-108, termed capital stock premiums, in the general accepted meaning of what premiums are, it means the amount over and above the par value of the stock.

I know there were premiums paid for the stock of the A. T. & T. Co. I have not the figures that you are quoting, to-wit, that some of the stock sold for $110 and some as high as $180.

The higher the premiums and the more the stockholder in-

vested, the higher the rate of return would be worked out by the method I have followed, from the same earnings of the American Company, if all the other factors remained equal.

As a bookkeeper, I would say ordinarily that the more a man paid for his stock, the less the per cent return to him from the same amount of earnings, on a total investment would be.

5163 The figures given me yesterday by Mr. Blackman, as the correct average loans of the A. T. & T. to the Illinois Bell, are correct.

5165 *Redirect Examination by Mr. Goldstein.*

Since yesterday's hearing I have checked the figures of interest and loans shown in Schedule 213 in the Annual 5166 Reports of the American Telephone & Telegraph Company to the Illinois Commerce Commission which were shown to me, together with the following exhibits which Mr. Heiss furnished us, bearing on this subject matter, to-wit: Exhibit X-103, which Mr. Heiss sent us and which I have here in the court room before me, entitled, "Analysis of Estimated Cost of Item 1-D, Carrying Investment in Physical Property used in Rendering License Contract Service; Item 1-E, Holding Funds Available during Period to meet Cash Requirements of Licensee Companies; Item 1-F, Temporary Financing of Licensee Companies."

Also the figures with which the Illinois Bell furnished us, entitled, "Advances from American Telephone & Telegraph Company during the years 1923 to 1925," and which is City's Exhibit 76 in Record Volume VI, page 2097; the exhibit which the Illinois Bell offered in 1929, Plaintiff's Exhibit 78, a continuation of City Exhibit 76 running up to 1929, and which is in Record Volume IV, page 1573. And, also "Supplement to City's Exhibit 76," which continues the advances from the American Telephone & Telegraph Company for the years 1927 to 1931, inclusive, which I have before me.

5167 I have also checked the loans and interest as shown on the books of the Illinois Bell Telephone Company itself and from these I find as follows:

The Annual Reports of the American Telephone & Telegraph Company to the Illinois Commerce Commission, on their face show that the form of the Annual Report was changed in 1926. Prior to 1926 the annual report on its face

shows only that amount of interest which is accrued and unpaid on particular loans of the licensees which are outstanding on December 31st of the year of the report.

That is, the annual reports prior to 1926 only show that amount of interest unpaid on December 31, of the loans that are unpaid on December 31. They do not show either the amount of loans that were made during the year that have been paid off the day before the year, and they do not show the interest that was paid on all of the loans during the year that were paid off the day before the year, and they don't show any interest or any loans that were carried over from one year to another year, that were paid off before December 31st.

5168 Subsequent to 1926, the annual reports show on their face two columns, first, the interest accrued on the particular loans of the licensee companies which are outstanding at the end of the year, just as appeared in the annual reports prior thereto. That is, if there was a million dollars outstanding on December 31, it would show the interest on that million dollars, but if the million dollars was the balance of a fifty million dollar loan which was outstanding for all but the last day of the year, it would not show the loan of the balance of the fifty million dollars, and it would not show the interest on the fifty million, excepting for this one million dollars.

In the second column, the annual reports after 1926 show on their face the total amount of interest paid during the year by those licensee companies which had loans outstanding on December 31st of that year.

5169 That is, if the Illinois Bell had twenty-five million dollars of loans from the American Telephone & Telegraph Company, and those were paid off on December 28, 1923, the report for the year ending December 31, 1923, would show no loans and no interest.

If the Illinois Bell carried over from 1922 fifty million dollars of loans, and it was paid off on December 28, 1923, and there were no other loans outstanding on December 31st, the annual reports would show no loans, and no interest.

The information, therefore, in the annual reports did not cover the same ground as the ground covered by my exhibits.

My exhibits attempted to take the interest actually paid, as Mr. Heiss showed it in Exhibit X-103, and I distributed the

actual amount of the loss among the licensee companies as he computed it.

5170 I checked Section 213 of the Annual Reports about which Mr. Blackman spoke yesterday, to see the amount of interest on loans paid by the Illinois Bell and the amount of loans shown in those Annual Reports compared to the actual loans made by the American Telephone & Telegraph Company to the Illinois Bell and the actual interest paid during those years.

I found that in the year 1927, according to Plaintiff's Exhibit 78 in record Volume 4, page 1573, which facts are also shown in supplement to City's Exhibit No. 76, which has been furnished to us in connection with the present hearing, it appears that there were advances made from the American Telephone & Telegraph Company to the Illinois Bell in the year 1927, as follows: $1,000,000 on March 31, 1927, $200,000 on March 31, 1927, $500,000 on May 2, 1927, $1,000,000 on June 1, 1927, $750,000 on June 13, 1927.

These loans were paid off on or before June 30, 1927. In the annual reports of the A. T. & T. Co. to the Illinois Commerce Commission, Section 213, for the year 1927, the name of the Illinois Bell does not appear; no loans appear for

5171 the Illinois Bell; and no interest appears as having been paid by the Illinois Bell during the year 1927.

That is, the plaintiff's own exhibit shows loans were made to the Illinois Bell during the year, and paid off during the year, and interest paid during the year, but the annual reports show neither interest nor loans, because they were not outstanding on December 31st.

Furthermore, as shown in Plaintiff's Exhibit 78, page 1573, of the Record Volume 4, and as shown in supplement to City's Exhibit 76, which plaintiff has just furnished, on December 31, 1926, there were outstanding loans from the American Telephone & Telegraph Company to the Illinois Bell of $13,800,000. Of this, $500,000 was paid off on January 7, 1927, and $13,300,000 was paid off on January 15th, 1927. But nowhere in Section 213 of the annual report does there appear the interest paid by the Illinois Bell to the American Telephone & Telegraph Company for the period of time from January 1, 1927, to the date of payment of this $13,800,000.

That is, the Illinois Bell actually paid interest on

5172 $13,000,000 for fifteen days, but the annual reports could not show them because the $13,000,000 was paid off prior to December 31, 1927.

In the year 1921, according to City Exhibit 76, prepared by the Illinois Bell, there was outstanding on December 31, 1920, advances from the American Telephone and Telegraph Company to the Illinois Bell of $4,000,000. On February 1, 1921, additional advances of $400,000 were made, and on August 24, 1921, an additional $2,450,000. On August 24, 1921, $6,850,000 was paid off. There was, therefore, on an annual basis average advances of $1,823,333 and neither the loans nor the interest appear in the annual reports for the year 1921.

That is, in the year 1921, there was an average yearly advance from the American Telephone & Telegraph Company to the Illinois Bell of $1,823,333, on which the Illinois Bell paid interest, and the American Telephone and Telegraph Company received the interest, but the annual report was
5173 silent both as to the loan and the amount received by the American Telephone and Telegraph Company.

In the year 1922 the American Telephone and Telegraph Company advanced to the Illinois Bell, as shown by City Exhibit 76, prepared and furnished by the Illinois Bell, shows the following loans as having been made to the Illinois Bell: February 2, 1922, $1,500,000; March 1, 1922, $300,000; March 6, 1922, $1,000,000; May 31, 1922, $1,000,000; June 2, 1922, $300,000; June 30, 1922, $1,000,000; August 3, 1922, $500,000; August 28, 1922, $100,000.

These loans were paid off between June 30, 1922, and September 30, 1922. The average advances for the year were therefore $1,158,077, but nothing appears in the annual report.

When I say the average advances for the year, I mean the advances, which I have just stated, when reduced to an annual basis, would equal a loan of $1,158,077 for twelve months on which the American Telephone and Telegraph Company received the interest, but nothing appears in the annual reports either as to the loan or as to the interest.

5179 For the year 1930, from the supplement to City Exhibit 76, I found the advances from the American Telephone and Telegraph Company to the Illinois Bell outstanding December 31, 1929, of $2,200,000, which amount was paid on January 2, 1930, which, on a yearly basis of average loans

was $12,228, of which nothing appears in the annual reports of the American Telephone & Telegraph Company.

The books for the year 1920 showed average loans of $2,365,521.

On the basis of taking the interest from the annual reports and dividing by 5.88, one would get $442,755.

For the year 1925, the Illinois Bell Company's books show average loans of $1,983,944, and if you had applied the 5.88 to the interest as shown in the annual report, you would
5180 have had $250,000.

On the basis of applying the 5.88 to the interest shown in the annual reports for the year 1920, you would have shown outstanding loans of $12,939,983.

Exhibit X-103 furnished by Mr. Heiss showed for that year $191,500,522.

In 1921, the 5.88 per cent computation divided into the interest shown in the annual report would have shown $16,093,146.

There are some differences that would have resulted from applying 5.88 per cent to the annual reports.

The total differences for the period 1923 to 1930 between the Exhibit X-103 furnished by Mr. Heiss and the com-
5181 putations which would have resulted from applying 5.88 per cent to the annual reports would have been as follows: according to X-103, the loans were $1,626,831,491, and by applying 5.88 per cent to the interest in the annual reports, you would have gotten $1,073,809,794, or $600,000,000 difference.

In X-103, Mr. Heiss showed the actual interest received by the American Telephone and Telegraph Company.

That is $11,511,000 for the year 1920. The interest shown in the annual reports is $760,871.

For the year 1921, the annual reports show $946,000, and Mr. Heiss shows in X-103, $10,595,000.

Similarly, there are differences, for each of the years, between Mr. Heiss' figures in X-103 and the annual report interest.

5182 Those differences in 1922 were: $634,288 in the annual report; $7,813,000 in Mr. Heiss' exhibit; in 1923, in the annual report, $857,671, and $7,605,000 in Mr. Heiss' exhibit; in 1924, $1,020,737 in the annual report, and in Mr. Heiss'

exhibit, $10,303,397; in 1925, $1,169,546, in the annual report and $13,932,839 in Mr. Heiss' exhibit, and so on.

I also checked the interest which Mr. Heiss showed in X-103, with the average advances for licensee companies shown in X-103, which showed that the American Telephone and Telegraph Company, received interest on those loans, of 5.60 per cent for the year 1929.

5183 On the basis of 5.88 per cent the loans shown in Mr. Heiss' exhibit would have resulted in interest of $14,948,987. Mr. Heiss showed interest in X-103 of $14,554,437, from advances made to the licensees of $254,234,480, and loans of $6,209,209 made to the 205 Broadway Corporation and the Bell Telephone laboratories.

(June 17, 1932.)

5191 Assuming that a company has total funds of $1,000, of which $500 came from a loan paying 5 per cent interest, $250 from capital stock and $250 from premiums and surplus, and the net earnings are $100, there are several methods that may be used to express the return on investment.

One way of expressing the return on investment would be to say that the company earned 10 per cent on its investment in the business, of $1,000. That would be Method 1. Another way of expressing the return would be to say that as the company had to pay $25 interest on that loan its earnings were sufficient to pay the interest and have available $75 for return on its capital, premiums, and surplus. $75 is equal to 15 per cent on the $500 of capital, surplus and premiums. That would be Method 2, which I understand follows Mr. Blackman's cross-examination of me.

5193 The third method, and the method which was used by the American Telephone & Telegraph Company, would be to say that the company earned sufficient to pay its expenses and its interest, and had $75 return on its capital, surplus and premiums, which return is expressed as 30 per cent on its capital stock of $250. I used these three methods in my Exhibits X-296, X-297 and X-298.

5194 The third method of expression is used by the American Telephone & Telegraph Company in its Annual Reports, and in the Bell Telephone Securities Manual. The earnings are expressed as a certain per cent of return on the outstanding capital stock.

Referring to the Bell Telephone Securities Manual, which is Defendants' Deposition Exhibit for identification No. 110, entitled "Bell Telephone Securities, Reference Tables and Descriptions for use of Investors, Investment Houses and Bankers, with a brief introductory statement of the organization and financing of the American Telephone & Telegraph Company and Associated Companies, 1931," which was issued April 15, 1931. On page 10 it shows with reference to the year 1930, net earnings per share of $10.44, and dividends paid per share of $9.

5195. Referring to the Annual Report for the year 1931, which is offered as Exhibit X-307, on page 15 it shows for the year 1930, $10.44 per share. The connection between the last mentioned two documents and Exhibits X-286 and X-287 for the year 1930, is as follows:

Exhibit X-287 shows that on all of its funds in the business, the American Telephone & Telegraph Company earned in the year 1930, 7.21 per cent, that is, earnings available for interest, dividends and amortization charges.

In X-286, this 7.21 per cent is expressed to show how much of the earnings after paying the interest and amortization charges, was available for return on capital stock, capital stock premiums and surplus; but is expressed as a per cent on capital stock outstanding.

X-286 shows that for 1930 the undivided profits and dividends amounted to 10.44 per cent on its capital stock out-

5196 standing. This figure is the figure shown in the Annual Report of the American Telephone & Telegraph Company for 1930, and in the Bell Telephone Securities Manual.

The figure for each of the years 1923 to 1930 shown in X-286 ties up with the Annual Reports of the American Telephone & Telegraph Company, and with the Bell Telephone Securities Manual, excepting for a small amount of additional amortization of discount, which the Annual Reports have not considered.

The relation of Exhibits X-286 and X-287 to A-164, of Mr. Heiss, and my Exhibit X-108 is as follows: X-286 shows $10.44 per share is figured on the capital stock of $1,585,669,600, which is the figure which Mr. Heiss showed in A-164 under Average Capital Stock, and which is also shown in X-108 on the first line for the year 1930.

I will tie up A-164, X-108 and X-287, for 1930. From X-287 the American Telephone & Telegraph Company is shown to have earned 7.21 per cent on $2,746,624,797 of funds used in the business, which amount of funds Mr. Heiss showed in A-164, and which is shown in X-108. This 7.21 per cent
5197 represents earnings available to pay out interest dividends and amortization charges which Mr. Heiss shows in A-164 in the last column, the last line as 6.25 per cent. 10.44, which is the result after deducting the interest and amortization charges, is the return on capital stock, and which was available to pay out the dividend of 8.78 per cent which Mr. Heiss shows in the first column of A-164, and which is shown in X-108. I will tie up the method used in X-111 to convert the 39.02 per cent to the 59.53 per cent with X-286 and X-287. The formula that I have used in X-111 to convert the 39.02 per cent of return on total funds invested in telephone instruments, to arrive at the 59.53 per cent return available for capital stock premiums and surplus, expressed as a percentage of capital stock only, is the formula which I would use if I were to convert the 7.21 per cent in X-287 to the 10.44 in X-286.

In X-108, I inserted percentage figures which Mr. Heiss did not show in A-164. These percentages are merely to show what portion of the total funds came from capital
5198 stock, what portion came from surplus, and what portion came from the funded debt, and what portion came from loans.

They also show what portion of the total dividends, interest and amortization charges would be required to take care of interest and amortization charges and to take care of the dividends on the capital stock. These percentages are inserted as a matter of convenience so as to enable computations to be made from my exhibits to express return from any or all of the operations of the American Telephone & Telegraph Company, by one of the three methods mentioned, namely: 1, a return on total funds; 2, a return available for capital stock, surplus and premiums, expressed as a percentage of such combined surplus capital stock and premiums; or, 3, a return on surplus, capital stock, and premiums expressed as a percentage of the capital stock outstanding. For the year 1923, X-287 shows the American Telephone &

Telegraph Company earned 8.40 per cent on all its funds available for interest, dividends and amortization.

Exhibit X-111 shows 39.02 per cent to be the return to the American Telephone & Telegraph Company from an
5199 allowance of $709,000 for rental of instruments, on the American Telephone & Telegraph Company's investment in telephone instruments.

Exhibit X-286 shows 11.20 per cent as the return to the American Telephone & Telegraph Company from all of its operations in the year 1923, after taking care of all of its expenses and after taking care of the interest and amortization, which was available as the return for capital stock premiums and surplus, expressed as a percentage on capital stock. As compared to 11.20 per cent on its capital stock available from all of its operations, 59.53 per cent would become available on that portion invested in telephone instruments shown in X-111. My return of 39.02 per cent in X-111 compares with 8.40 per cent in X-287 for the entire company, and my return on telephone instruments of 59.23 per cent in X-111 compares with 11.20 per cent for the entire operations in X-286.

5200 (Defendants offer in evidence Exhibit X-307 entitled "A. T. & T. Co.—Annual Report to Stockholders 1931" and Exhibit X-308, photostatic copies of Section 213 of the Annual Reports of the American Telephone & Telegraph Company to the Interstate Commerce Commission and the Illinois Commerce Commission for each of the years 1920 to 1930, inclusive.)

Re-cross Examination by Mr. Blackman.

I think counsel can answer the question as to the purpose of my testimony relating to the sources from which I could not find the correct figures for the average loans which we had been talking about the day before, better than I can. It is not correct that so far as I am concerned, it had no purpose.

5201 You showed me an Annual Report, and you said I could have gotten the figures for the companies from it. Now, I quoted the figures in the Annual Reports to show that I could not get the figures from the sources that you stated I could get them from. I got the figures shown in City's Exhibit 142. I told you that I had verified your figures, and

they were correct. The method of making the verification so far as the Illinois Bell is concerned is to go to the books of the Illinois Bell. Of course, we had access to the
5202 books of the Illinois Bell, but we did not have access to the books of the other companies. We always had access to the books of the Illinois Bell, and could have gotten those Illinois Bell figures at any time.

The purpose in my testimony concerning the place where I looked for information was merely to show that I was depending upon the figures that you furnished me, which I used, which were based on the quarterly balances. The figures furnished were certain groups of figures showing the average loans of the licensee companies, that were shown in City's Exhibit 142, I believe is the number, and I think also the later years were furnished as a supplement to City's Exhibit 142.

5203 They were furnished to me through counsel and I used them. I do not know the circumstances under which the original City's exhibit was made up.

That City's exhibit bears across its top in very plain, bold letters, the amounts on January 1st, March 1st, July 1st, September 1st, whatever the quarterly dates are, averaged by dividing by four, but it also shows that these are the average loans during the year, and what was just stated was in parentheses—explaining how the average loans were made up—and how it was worked out.

5205 I had City's Exhibit 76.

5208 I do not know just how to answer your question as to whether there is anything in the testimony that I gave in answer to Mr. Goldstein, which in my opinion shows that the figures opposite the line "Illinois Bell" on X-131, for the years 1923 to 1930, both inclusive, were correct.

5209 I told you the figures you gave me were correct, and those are different figures than are shown here. Now those figures shown here are based on the quarterly averages, and the figures you stated, were based on the daily balances. There is that variation.

5210 For the year 1929, on this line I am talking about, on Exhibit 131, I used a figure of $12,412,500.

5211 I stated in answer to your question yesterday that the figure you gave me, $7,747,364, was correct.

5213 I did not have the correct figures for all of the companies, and I had the loans on one basis for all of the companies, and I used them for the Illinois Bell because that was the same basis there, as for the other companies, and in my opinion it would not have been proper in a set-up of this kind, to show one figure for the Illinois Bell on one basis, and the figure for the other companies on another basis. When I was using these figures for the Illinois Bell, I did not know, as a matter of fact, that they were not correct.

I have seen City's Exhibit 76, but I did not
5214 use it in connection with this. I think it would be possible using the dates, to work out the correct figures for this line in question here, from City's Exhibit 76.

"Q. Well it gives you the date of each loan, and when the loan was paid off, and any accountant could very speedily and very easily get the average, could he not?

A. It would be possible to get the average."

When I answered that the figures that you gave me were right, the information was taken from the books of the Illinois Bell. I did not personally go to the books and take it off. I had the information which I had a man take off for me.

5216 I do not believe I had it in my work papers here in court with me, but I obtained it from the papers in our office, after I went back to the office. I do not think I had it here in my possession, by any means.

5217 I have with me here in court the papers from which I obtained it for two of the years, but I have not found the others yet. I have the figures taken off the books here for 1929 and 1930, here before me. I have the analysis of Account 336, analysis of other interest deductions, showing the interest paid, with a notation at the head of the column, "Six per cent minus two—5.88" from which the average loans for the year were computed, for 1929 and 1930. I computed from these figures the average loans for the years 1929 and 1930. I have a paper here which shows the average loans, per the books, for the year 1929, as $7,747,364, and for 1930, $12,228.

5218 That is based on dividing this interest by 5.88. I took some of my work papers and worked this out, and I think these were the sheets that I had for 1929 and 1930. I

do not know whether I can find the others. The papers now shown to me by counsel (A-219) are not the ones that I got the correct figures from. I have seen them; I think I may have looked at them yesterday. I went through a computation although the figures are stated here correctly, for every year on my papers furnished to plaintiff, because I wanted to check this rate of 5.88 that you told me would
5219 work out the correct figures.

These (A-219) are some of the sheets that were prepared under my direction. I did not work them out myself. I prepared the sheets under the direction of counsel and
5220 delivered them to counsel for the defendants and they delivered them to the plaintiff. They are not among the papers that I have offered in evidence.

5232 (Plaintiff's Exhibit A-219 offered and received in evidence.)

5233 It is not a fact that when I wanted to find out whether the figures which you gave me were right or wrong, I went to these papers to find out, and checked them. I went to my work papers, because I wanted to see just what information I had in my work papers.

"Q. And you went to your work papers and figured it all out knowing that you had these where you had already figured it out?

A. You told a figure to me, on the stand, of so many dollars of interest, and I wanted to check that figure."

Exhibit X-115 is a comparison of what was put in
5234 the record on page 1038, showing by items the investment, and in Column A the allowance for the telephone instruments; and I have assembled similar items from the exhibits put in by Mr. Heiss in this case, and then I have compared those two presentations with the actual experience, showing the computation of the investment and the cost of furnishing the instruments by items, and then taking out of the total amount for the instruments, the return on investment included in that amount, and working it down to a return on the investment as shown by the books of the American Telephone & Telegraph Company, and allocated to the Chicago Division. That is in general what I tried to do.

In line 7, where I used the legend "Actual return on investment obtained," and the first figure is $454,990, I don't know whether anybody actually received the money or not.

5235 In connection with that item, I think it is very clear what I meant. I mean this,—that that is the return that would be included in the amount of $709,007; that is what I meant by it; that is the amount that would be obtained if you used the figure of $709,007 as an allowance for the instru-
5236 ments. It would be computed to the Illinois Bell, based on the American Telephone & Telegraph Company's experience. It would be a return of $454,990 to the Illinois Bell if the allowance of $709,007 were given, and the Illinois Bell owned the instruments on the same basis as the American Telephone & Telegraph Company. That is for the year 1923. Exhibit X-115 refers only to the year 1923, on the heading. I think that is all it is intended to refer to.

I have made other computations for others years not
5237 based on the figures in Column A—if you are referring to that. I do not think I used that for other years. In 1923 the Illinois Bell Company owned no instruments and got no return on any instruments.

5238 When I say "Actual return on investment obtained," for the Illinois Bell, $454,990, that is not an actual figure at all. It was not intended to show that it would be an actual figure. By the use of the words "Actual return" I meant, based on these figures that are shown above there on the various assumptions entering into the computation of $709,007, the "actual return" is really what it would be on that basis. At the head of the first column I have "Presentation during the year 1929" and at the head of the second column I have "Presentation during the year 1932." What I meant there was that the presentation during the year 1932 that Mr. Heiss made, as I understood it, was to arrive at a fair allowance for the instruments, and that is in a manner
5239 similar to the $709,007. By the use of precisely the same language as the headings of those two columns, I intended to show what this would amount to based on the company's actual experience. There was no intention to imply that they actually received such an amount as that. I know that these computations were made by different people and at different times. I do not know the purposes of the presentation in each case. I understood them both to refer to an allowance for the instruments, and that is the only rea-
5240 son that I have compared them. I looked at the methods and I set up what the methods showed.

I think the computation purported to show that one method which I have used here in parallel to the other, was a method that was set up by an officer of the Illinois Bell in 1929 to show what it would cost the Illinois Bell Company to buy these instruments new, and to maintain them in service, and to get a fair return on the capital so invested.

5241 In column 4 "Total Cost of Furnishing Telephone Instruments," I have figured what the return would amount to if the Illinois Bell Telephone Company had gotten an amount of $709,000.

5242 By the use of the figure 64.63, what I tried to do was to work down to a return on investment, assuming that
5243 Illinois Bell got $709,000 as an allowance. I understood that there was a claim for an allowance of that amount. The computation of total cost to the Illinois Bell of $709,000, and working out an actual return to the Illinois Bell of $454,990 and a per cent of actual return on net investment to the stockholders of the American Telephone & Telegraph Company of 64.63 per cent is all based on the American Telephone & Telegraph experience. The amount $454,990 was related to the investment shown in column C of $1,076,383, which is the allocated proportion of the American Telephone & Telegraph Company's investment set up on their books in respect to the Illinois Bell, Chicago Division.

5245 In submitting that percentage of 64.63, all I was trying to show was what an enormous return this amount would be on the basis of the American Telephone & Telegraph Company's actual experience. That is all I was trying to show. The actual experience that I mentioned was that I took their investment as shown on their books and allocated it to Chicago, on the average stations.

If all the company is entitled to in this case is the cost of maintaining these instruments as shown by its experience, then the figure which should be used is $327,965 instead of $709,070, and that's all there is to it. As a matter of fact,
5246 in the last column here I purport to show what the actual experience of the American Telephone & Telegraph Company was as I understood Mr. Heiss' exhibits to mean.

"Q. And that is based on instruments that were purchased over a number of years at lower prices than obtained in the years in question, is based upon the deduction of a deprecia-

tion reserve of 50 per cent which was built up by 10 per cent charges over a number of years prior to 1923, and takes the actual expense that the American Telephone & Telegraph Company incurred in connection with those instruments, that's right, isn't it?

A. They are all actual items so far as I understood."

I do not understand that this figure of $189,351 in
5247 Column B, Exhibit X-115, represents actual depreciation. My recollection of the exhibit was that it meant a deduction of 8 per cent from value new for depreciation. I presume it was for actual depreciation instead of the
5248 book reserve for depreciation. There is a difference between columns B and C as to the investment, because they are set up on a different basis. That is due largely to the amount of depreciation which is taken off.

Part of the difference in the two columns is that in one column Mr. Heiss is estimating the figures on the basis of an 8 per cent return, and on the other he is basing it on the actual cost of money to the American Telephone & Tele-
5249 graph Company. That is not all of the difference between the two columns. There are differences in the expense items that he included in his allowance.

5250 These two columns B and C down through line 7 in so far as figures are concerned are all shown on Mr. Heiss' exhibit except that in the amount $473,000 I have added back taxes which he omitted. I put the two on the same basis. I think that he understated, a little, the amount that the American Company would have been entitled to on his theory by omitting the taxes.

5251 I have taken the figures, with the exception of the one change we have mentioned, from a comparison which Mr. Heiss himself made.

"Q. And then you have added lines 8 and 9, which he did not use, and then you have added the whole of column A, and you have used your own legend here for lines 1 to 9, inclusive?

A. Wel', line 8, I don't recall that his exhibit exactly showed a line that he called the same as I have called it, but he used that figure of 6.87, that shows in his exhibit."

It appears in line 6. I don't consider "Investment or value new" in line 1 to mean the same thing. I have not shown which was which. The terms "Net investment or fair value"

I do not consider equivalent the way they are shown
5252 here. I have not indicated which of these figures was "fair value" and which was "net investment."

"Q. Anyone looking at the exhibit would understand that the figures were comparative, and were stated on the same basis, would they?

A. I did not intend to convey the idea that each one of these items represented the same thing as the other at all, that they meant the same thing."

In line 8, I figure out what is not the fair return on the value of the property, but the return to the American Company on its investment in the property. In line 9, I step that figure up by finding the per cent actual return on net investment converted to average return to American Telephone & Telegraph Company stockholders in the same manner in which I stepped up the similar figure in Exhibit X-111.

5253 What I did in Exhibit X-117 was to work out the annual allowance of the Public Utility Commission in the order of December, 1920, to show on the basis of the figures for the year 1920, that is the average stations in service, what the allowance would be at $1.13 per station, and I worked that out, or I compared that figure with what the cost of furnishing the telephone instruments would be, based on the American Telephone & Telegraph Company's actual experience, and including a return on investment at the annual cost of funds. As a final result here, I get a per cent of profit to the American Telephone & Telegraph Company on its average investment of 45.17 per cent, from the order of the Commission. To get "Profit to American Telephone & Telegraph Company, $343,122" in line 4, I took the allowance of the Public Utilities Commission at $1.13 per station and applied that to the average number of stations for the year 1920, then I worked

5254 out what the cost of furnishing the telephone instruments would be, which is shown in my Exhibit X-116, based on the experience of the American Telephone & Telegraph Company, including a return on investment. I followed that method throughout all of my calculations, and in all of my exhibits, consistently deducting the entire reserve which the American Company has set up, and I am purporting to figure out a return on the net cost to the American Company, taking what is paid for the property in the first instance, and what it had set up on its books as a reserve, deducting

the reserve, and getting a balance; that is the figure I use in every case, and that is the figure on which I compute what I call per cent return. I used the same method as Mr. Heiss in Exhibit A-166.

5255 I have presented about eighty or ninety exhibits to this court in the last few days. The calculations are based on what the books show; that is, based on the original cost as I took it from the books, less the depreciation reserve shown on the books. That is the consistent principle I have followed throughout.

On Exhibit X-117, I say "Profit to American Telephone & Telegraph Company." That is the difference between the amount which the Commission said it would be fair for the American Telephone & Telegraph Company to get, and the amount which I figure out it would have cost the American Telephone & Telegraph Company.

5257 In a number of my exhibits, I make a comparison of what I call the return to the American Company from other associate companies. Whether I use, as the figure of the return, the dividends and interest, depends on what exhibit you are referring to. All of them do not show dividends and interest, but a number of them show dividends and interest. In a great many of them I have lumped together the dividends and interest received by the American Company from the Illinois Bell, and compared those figures with the divi-

5258 dends and interest received by the American Company from other associate companies. My Exhibit X-284 shows both dividends and interest separately. I don't know whether any other exhibit shows both separately. There is at least one that shows both separately. Most of them lump them. In those cases where I have made the comparison of the mixture, as an accountant, I think that that comparison means something.

In my opinion, as an accountant, if I wanted to find out the relative values to the American Telephone & Telegraph Company, and the relative profits to the American Telephone

5259 & Telegraph Company from two companies, it would make no difference to me that the moneys received by the American Telephone & Telegraph Company in one case were 99 per cent bond interest, and 1 per cent from stock dividends, and in the other case were 99 per cent from dividends,

and 1 per cent from bonds. I put the two items together. I think that is clear that I put the stock and the loans together, and I worked out the dividends and the interest on those loans in respect to the Illinois Bell, and I compared the same thing with the other companies.

5260 If the dividend rate were 8 per cent and the interest were 5.88 per cent, under my method, the average return would vary, based on the proportions of the stock and loans. The proportions of stock and loans and the dividend rates are factors that enter into it.

"Q. And in some forty or fifty sheets you have worked out the comparison between what you call the yield to the American Company from the Illinois Bell, and the yield to the American Company from other associate companies on this basis of comparing a mixture of interest and dividends in one company with a mixture of interest and dividends of another company, is that right?

A. The comparisons are the same for the Illinois Bell as compared with the other companies.

Q. And because the Illinois Bell, for special reasons that have been stated here, are paying small amounts in interest, the comparison shows that the return, as you call it, from the Illinois Bell was a little better than it was from some of the other companies, is that right?

A. The return—in the comparison of the Illinois Bell, the returns from the other companies are all based on these factors that I have mentioned a while ago."

5261 What I tried to show in connection with those items is the comparison of the return on the stock and the loans together; in other words, in some companies the American Telephone & Telegraph Company made a large number of loans, made large amounts of loans, in other companies it made small amounts. It got interest on the money which it loaned, and it got from the same company dividends on stock.

As to what relation those two things have to each
5262 other in this case, I wanted to show what the total return was on both of these items of investment that the American Telephone & Telegraph Company was getting. Interest on money is what the American Telephone & Telegraph Company received for the money. I did figure dividends
5263 on stock. I figured first, the dividends, then, in some other sheets I put the loans together with the stock and

showed the return on the two items combined. They show on their face that they are made that way.

5265 When I developed these percentage figures that I used by comparing this so-called return with the investment of the American Company, I go away back to the original cost to the American Company of what it paid for the stocks in these various associate companies.

In the case of the Pacific Company, I show the return on the stock for the year 1923 was nothing; the year 1924 was nothing; the year 1925, 6.54; the year 1926, 7.63; the year 1927, 7.39; the year 1928, 7.33; the year 1929, 7.33; the year 1930, 7.19.

5266 This is the return to the American Telephone & Telegraph Company on its investment in the stock of the Pacific Company.

I don't recall any such figure as 100 per cent return from the Pacific Company. If there is any such figure, it strikes me it must be a typographical error. I don't recall any such figure as that. In my comparisons here, I am dealing with

5267 what the books showed to be the American Company's investment in the stock of the associate companies.

In Exhibit X-278, the figures that I develop as the percentage of dividends and undivided profits of licensee companies to investments by American Telephone & Telegraph Companies in common stocks of licensee companies converted into average return to stockholders of American Telephone & Telegraph Company on their investments in capital stock of American Telephone & Telegraph Company for the years 1920 to 1922, inclusive, are as follows for the Pacific Company:

For the year 1920, 118.14 per cent; for the year 1921, 144.59 per cent; for the year 1922, 159.20 per cent; and the year 1923, 118.47 per cent. The next year it goes down to 44 per cent, and after that diminishes. By the method I have followed here, I worked out a return with respect to the Pacific Company as high as 159.20 to the American Telephone & Telegraph Company stockholders, on their proportion of the investment, after considering the dividends and the undivided profits.

5269 In Exhibit X-124, it shows that the Indiana Bell Company paid no dividends at all during 1923, 1924, 1925 and only 4 per cent in 1926; 6½ per cent in 1927; thereafter, 8 per cent.

In Exhibit X-130 I show what I call the amount required to equal the average Illinois Bell Telephone Company return on capital stock.

I show those figures for 1923 as $863,796; for 1924, $861,376; 1925, $1,333,986; 1926, $946,185; and 1927, $322,751. This exhibit merely is to show how much it would be in terms of dollars that the Indiana Bell would have to pay to the American Telephone & Telegraph Company on its investment in the stock of the Indiana Bell, if it were on the same basis as the Illinois Bell. I use that information in X-137, and
5270 there the above amounts are raised to include loans, and the total equalizing figure for stocks and loans is for 1923, $1,111,829; for 1924, $1,134,571; for 1925, $1,555,573; and for 1926, $1,010,741; and for 1927, $409,027. They purport to show the amount that would be required to equal the average return of the Illinois Bell to the American Telephone & Telegraph Company on the American Telephone & Telegraph Company's investment in stock and loans of the Illinois Bell.

The exhibit shows that the Illinois Bell was doing so much better than the Indiana Bell that the Indiana Bell would have had to pay to the American Company these amounts that were read off last in order to equalize its payments to those of the Illinois Company.

In Exhibit X-142, I show the license revenue from the Indiana Bell Company to the American Company. That starts out at $363,065 in 1923, and increases to $464,987 in 1927.
5271 I then deduct from these amounts the stock and loan deficiency which was just read and I do that to place the company on an investment basis comparable to the Illinois Bell Company.

What I meant by that was this: in connection with the license contract there were certain losses on the loans, and there were certain losses on holding funds available for stocks and loans. Now, what I did here was to put this item in to show if all the companies were on the same basis as to return as well as to losses, that that is what it would result in. That is a comparative figure only. I put it in there to show what it would be if they were all on the same basis. I
5272 thought it would illustrate the inequality of the financing between the companies. They were all gone over by

attorneys.

5273 All of these figures that I have used here, and all of this approach that has been spoken of, leads up to the fact that because the Indiana Company and some of the other companies were not doing very well in these early years, that the amount of license contract payment from the Illinois Bell to the American Company should be reduced or that the license payments of the other companies should be increased.

"Mr. Blackman: Yes, that is working it out on your last, according to the argument which underlies this long list of papers, we should have charged the Indiana Bell Company 18 per cent as its license contract payment in these years in question."

(Objected to by defendants.)

5275 It figures out about 18 or 19 per cent.

5276 Referring to my testimony on re-direct examination in which I said that the company that had a thousand dollars of capital and nine thousand of stock premiums would earn 80 per cent, based on what I said was the American Company's method, the figure 80 per cent was based on what I understood your assumption to be and that was on a thousand dollar stock, nine thousand in premiums, and a total of ten thousand dollars, and an 8 per cent return. That is what I considered it, an 8 per cent return on the full amount of the investment, that is how I figured out the 80 per cent.

"Q. Do you mean to say that after going over that for a day yesterday, you considered that the return was eight hundred dollars, and not eighty dollars?

A. I understood when you first questioned me about it that you were talking about an 8 per cent return, so I was confused as to what per cent return you were referring to.

If you figure 8 per cent return on ten thousand dollars,

5277 you get $800, which is 80 per cent on the capital stock of a thousand dollars, and that is what my computation was.

Q. Do I have to go over this again?

A. That is what I meant.

Q. Do you mean now to say that in answering the questions that I put to you yesterday, that you were considering that the return was eight hundred dollars, and not eighty?

A. I was confused—

Q. No, answer that, please?

A. That is what I had in mind, 8 per cent return."

If we have a company with ten thousand dollars, which it has invested, one thousand of that is the par value of its stock, and nine thousand of that is stock premiums, and it is earning eighty dollars a year, if I worked it out in the same way that I worked out the figures on X-111, the per cent of rate of return to the stockholder of that company on his stock investment would be 8 per cent.

5278 Tying this illustration up with X-108, what you have given me would amount to an 8 per cent return on an investment, and the cost of funds would also be .8 per cent, and using the exact method that I followed, the figure that would compare with the dividend rate in the last column of X-108 on the thousand would be 8 per cent and that would be what my method would work out, it would work out to 8 per cent on a .8 per cent return, but on an 8 per cent return, it would be 80 per cent.

"Q. Well, now, I am asking you to assume an 8 per cent return to the company on its stock, and tell me how much return to its stockholders, that would mean, figured in the way you figured X-111, to get the figure of 59 plus per cent?

A. An 8 per cent return on a company with a stock of a thousand dollars, premiums of nine thousand, total funds in the business, ten thousand, 8 per cent return on that, $800, would figure 80 per cent return to the stock."

That would be on the par value of the stock, without considering the premiums. But if you consider the pre-

5279 miums, then, on the illustration you have given me it would be 8 per cent, which is the same figure as the return on investment.

There would not be any change in the percentage if there were no change in the earnings, but if you combine your stock and your premiums together, when you put in more premiums of course you are going to reduce your return, but if you do not change your earnings, and you will take the same stock, your are not going to change your per cent on the stock itself, on the par value of the stock.

5280 As to whether my method inevitably results in figuring out a larger profit to the stockholder from the same identical return, the greater the amount he has paid for his stock, if he pays it to the Company, I don't know

what you mean by "return." That is where I get confused, because you don't tell me what return you are relating it to. I will admit that I was confused in the way you put some of the questions to me yesterday, but I know that my method is right, and that it gives me the right answer.

5281 I understand that the American Company uses a method by which I could figure out an 80 per cent return in the case that was given. As to what the American Company does to justify my method, I worked out a per cent of return on the par value of the stock, and that is what the American Company does in its annual reports to the stockholders, and in the Bell Securities Manual it shows the return on the stock, and that is what I have tried to work out on their figures, the return on the par value of the stock, without considering premiums and the surplus. I told you

5282 this morning that in some of my other exhibits I have showed it on both bases, on the par and also on the par, premiums, and surplus.

The things I refer to as justification for this are:

The Bell Telephone Securities Manual for the year 1931, page 10, shows $10.44 net earnings per share on the stock. That is $10.44 per share on the par value of the common stock, and that is what I have used in all my figures.

5283 They are identical. As to whether there is anything else justifying my procedure, there may be other places where the American Company referred to the par value of the stock; I don't know. But I know that when they speak of the earnings, they refer to the earnings on the par value of the stock, and what I have worked out is in relation to the par value of the stock. That is what I had in mind when I answered Mr. Goldstein that the third method that I mentioned was the American Company method.

Yesterday you asked me to add five million dollars to the capital stock premium figure, which appears on page 4 of X-108. You asked me to add a billion dollars to the surplus that appeared on page 4 of X-108. I don't recall that

5384 you were trying to work out a new conversion figure on X-111. I certainly didn't understand that. I remember working out a calculation, but I don't remember all the details of that calculation. The record will show. I remember I worked out a figure—I think it was 140 per cent. I don't recall the exact figure. If it was based on X-111, why,

that it what the calculation was. I don't recall all the details of it. I do recall that I made a calculation, but I had not
5285 recalled what particular exhibit was referred to yesterday. It was the return as expressed on the par value of the stock. I can't recall all the details of the calculation now.

5286 There are a lot of calculations will have to be made to add $500,000,000 to the capital stock premiums shown on page 4 of X-108. I have not the paper that I made the calculations on yesterday. I must have destroyed it. I haven't it now. I just may have misplaced the paper.
5287 I haven't it now. The record shows that I said "Based on the assumptions you have made, it becomes 140.77 per cent."

5288 I computed it hurriedly, and I am not absolutely sure that making the assumptions Mr. Blackman asked me to make, by adding the amounts in the exhibit, making the computations according to my method, that it is the correct percentage.

I now seem to get the same figure of 140.7 per cent, but I would like to have the opportunity to study the figure and study the method; if I have worked it out wrong, I am perfectly willing to rectify it. (It was agreed that the figure would stand unless corrected later.)

5289 As to why that figure went up, I would like to study the method and study the figure, and see if it is right, and if I am not right on it, I would like the opportunity to correct it. It may be that this method would cause the figure to go up if you increased either the capital stock premiums or the surplus. It seems to be true that if you increase either the capital stock premiums or the surplus on my Ex-
5290 hibit X-108, and followed through the method that I have adopted with regard to X-111, that the percentage figure on X-111 would have to go up.

All I would like to do on this would be to study my method and see if I have computed it correctly, and if it is not computed correctly, why, I am perfectly willing to correct whatever error there is in it. That figure would have to go up, following the method that I followed, if you increase either the stock premiums or the surplus.

5291 It seems to me there is one fallacy in the statement of counsel that under my method, as shown on X-111,

the larger the amount the stockholder pays directly to the corporation for his stock, the larger will be his return, on the same dollar dividend. This fallacy is that, this figure of investment is related to a figure that I have shown on my X 111. Now, what you are doing when you put in these capital stock premiums is changing the relationship of the investment figures. It seems to me that is what you are doing. It produces a different answer, according to the calculations that I have made here.

5293 I am to be understood as saying that if I apply my method on the assumption that counsel has made, it will produce the result of increasing the percentage.

5294 As an accountant, I can think of circumstances that would prevent this result from following, that is, if you change the other factors; if you change earnings and those other factors that enter into return on invest-

5295 ment. Everything remaining constant except the variables, surplus and premiums, I cannot think of any conditions which will not produce the result of increasing the percentage, if you increased those variables.

Redirect Examination by Mr. Goldstein:

"Mr. Goldstein: I direct your attention to the following statement in the Bell Telephone Securities Manual for 1930, for the use of investors, investment houses and bankers, with a brief introductory statement of the organization and financing of the American Telephone & Telegraph Company

5296 and Associated Companies, which reads: 'Financial Policy. The policy of the American Telephone & Telegraph Company set forth in a recent Annual Report follows:

'The American Telephone & Telegraph Company accepts its responsibility for a nation-wide telephone service as a public trust.'

'Earnings must, of course, be sufficient to permit the best possible telephone service at all times and to provide a reasonable payment to stockholders with an adequate margin to insure financial safety. Earnings in excess of these requirements will either be spent for the enlargement and improvement of the service furnished, or the rates charged for the service reduced. This is fundamental in the policy of the management.' "

The Witness (continues): I thought that my method would get the exact measurement of the amount of the dividends and the amount of earnings over and above that, so that I could compute the margin to insure the financial safety, but I want to check up on the method and if it is wrong, I will be perfectly willing to rectify it.

The net earnings per share of the American Tele-
5297 phone & Telegraph Company stock, available for dividends, which is shown on sheet 10 is the same identical document which shows the $10.44 which I used in my exhibits.

5298 MATHILDA GALSTER, a witness on behalf of the defendants, having been first duly sworn, testified as follows:

Direct Examination by Mr. Haight.

(June 17, 1932.)

My name is Mathilda Galster. I reside in Springfield, Illinois. I am with the Illinois Commerce Commission as utility rate clerk. I have been with the Commission for seventeen years. At present I have charge of the utility rate schedules. I have been in charge of the utility rate schedules about twelve years. The certificates that are embodied in Plain-
tiff's Exhibit A-68 were executed after I compared the
5299 date with the records in the office. I made the comparison myself.

I have examined the records of my department to determine whether any other class A or class B companies other than the Illinois Bell and the American Telephone & Telegraph that are specifically included in this exhibit, Plaintiff's Exhibit A-68, have the identical definition of local exchange service, and I found no other Class A or B companies which have the identical definition of exchange service or the service which the exchange rates cover in relation to the use of the exchange plant and the local toll service.

"Q. Did you find any exchange schedules other than those that are included in Plaintiff's Exhibit A-68 that contain any definitions of exchange service or what service to which the exchange rates are applicable, except the Southwestern Bell

Telephone Company and the Southeast Missouri Telephone Company?"

(Objection by plaintiff; objection overruled.)

5301 I did not find any definition of exchange schedules, with the exception of the two companies mentioned, the Southwestern Bell and the Southeast Missouri Telephone Company, with the exception of those that were contained in the certificates.

Defendant's Exhibit X-305 for identification entitled "Definitions of Local Exchange Service—Southwestern Bell Telephone Company," are the definitions taken from our rate schedules on file by the Southwestern Bell Telephone Company.

5302 I have gone back into the records to determine when the rules certified to were first placed into effect, and what rule was in effect previous to that time, covering exchange and toll service for all the companies whose definitions of exchange and toll service were certified to in various certificates under A-68. I don't recall any other companies besides the Illinois Bell, and the American Telephone & Telegraph Company that have toll schedules, where the toll schedules are separate from the exchange schedules, in respect to any A and B Company. I examined our records to determine whether the exchange rate schedules prevailing in the Illinois Bell territory outside of Chicago contain definitions identical with those contained in the certificates shown in Plaintiff's Exhibit A-68. I did not find any definitions of exchange service in the Illinois Bell schedules outside of Chicago.

5303 I made an investigation to determine when the definitions in each of these certificates, Plaintiff's Exhibit A-68, for each of the companies, was first adopted, and also investigated to find the definition which was superseded by the rule stated in these certified ones, whether the company that is covered by the certificate in A-68 in each case had the same sort of definition for other communities, and also whether the certificates in Plaintiff's Exhibit A-68 in each case was included as part of the exchange and toll schedules, and whether the rates of the particular community covered by the certificates was a flat rate for exchange service.

I put the result of this inquiry in writing.

(Witness produces the writing which is marked for
5304 identification Defendants' Exhibit X-306 entitled "Definitions of Local Exchange Service—Illinois Valley Telephone Company.")

In that exhibit I accurately transcribed the results of the examination I made. Outside of Chicago there is no measured exchange service with the exception of public and semi-public pay station and hotel private branch exchange service; with the exception that the Illinois Bell has measured service rates on file for Springfield, Quincy and Decatur. There is no definition of exchange service on file in the schedules of rates applying to those cities.

Cross-Examination by Mr. Thompson.

5305 Practically every town in the state has a telephone rate, so I don't know how many exchanges there are in the State of Illinois which file schedules with the Illinois Commerce Commission. I referred there to class A and B companies only, as having examined them. There are just about two dozen A and B companies. I can't make a guess as to how many exchanges they serve. I know the Illinois Commercial have got a number of exchanges, but their rules are standard, and I had to examine only the one set of rules. The Illinois Bell is the same, they have standard rules for all their towns.

5306 There are practically no toll rates on file with the exception of the American Telephone & Telegraph and the Illinois Bell. Aside from the things which I have illustrated in Exhibit X-305 and Exhibit X-306, I found nothing which defined exchange service definitely on file with the rate section of the Illinois Commerce Commission, other than the exhibit I have certified to.

5307 When schedules are filed with the Illinois Commerce Commission, with the rate section of the Commission, sometimes there are letters of transmittal and sometimes there are not. I do not know whether with the filing made by the Illinois Bell in 1926 there was a letter of transmittal. This exhibit does not cover the Illinois Bell. It covers the other companies.

(June 18, 1932.)

5316 In Exhibit X-305, I have set up certain excerpts from the General Exchange Tariff of the Southwestern Bell Telephone Company. They have only the one tariff on file, and that is an Exchange Tariff. The Southwestern Bell Telephone Company from time to time, by letter, sent to the Rate Section of the Illinois Commerce Commission, has adopted the standard toll rate schedule of the Illinois Bell Telephone Company and the American Telephone & Telegraph Company then effective in the State of Illinois.

5317 (Plaintiff's Exhibits A-220 and A-221, respectively marked for identification.)

Plaintiff's Exhibit A-220 is a letter of transmittal 5318 from the Illinois Bell Telephone Company to the Illinois Commerce Commission, and Exhibit A-221 is the first sheet of the schedule of toll rates which was sent with that letter.

Exhibit X-306 contains certain extracts in connection with the exchange filings of various Class A and Class B telephone companies in Illinois, with the Rate Section of the Illinois Commerce Commission.

5319 The Independent Telephone Association has a blank form that they use, and give to the small companies, and when they file, they usually file that blank form which shows the rates up to 120 miles, and then at the bottom of the sheet it states that above 120 miles the rate schedules are the same as the Illinois Bell Telephone Company, and the American Telephone & Telegraph Company. I think usually they are the effective schedules at that time.

5320 CHARLES R. WHITWORTH, called as a witness on behalf of the defendants, having been first duly sworn, testified as follows:

Direct Examination by Mr. Haight.

(June 18, 1932.)

My name is Charles R. Whitworth. I reside at Highland Park, Illinois. My occupation is certified public account-
5321 ant with Touche, Niven & Company. I have been with that company 19 years. Before that I was with Price, Waterhouse & Company for seven years, and prior to that I was six years in London, England, in the same line of work. I am resident partner of the Chicago office. I have personally been in charge of general audits and examination of books, records and accounts of manufacturing, mercantile and banking concerns. I am engaged in work of that sort at the present time.

In connection with my work, I have on behalf of my firm issued auditors' certificates covering the findings of my company as a result of our examinations of the books of such companies, with respect to their profits and their assets. I
5322 was here when Mr. Hagberg testified as to the operations of Touche, Niven & Company; I heard his testimony. He stated correctly the nature of those operations,—the extent of the operations, and the character of the work done by Touche, Niven & Company.

I am a member of the American Institute of Accountants, New York Society of C. P. A.'s, Illinois Society of C. P. A.'s and the Institute of Chartered Accountants of England and Wales.

In order to make an auditor's certificate covering the subject matter of their examination relative to profit and re-
5323 turn on investment, it is generally customary for an auditor to be given free access to all books and records, including the corporate minute books and all correspondence with the Internal Revenue Department, so that he may make an unrestricted examination of the affairs in order to determine that the books and accounts are correctly

kept, and that all of the transactions of the company are recorded therein; and also to enable him to get the characterization of the transactions whose figures are recorded in the books of account.

5325 There is a practice among accountants, in regard to the breadth of opportunity that is given an accountant in making an examination of the character that we have
5327 been describing. If we go into a bank or a business place, for example, we are allowed to examine whatever we ask to see. We tell them we want all of the books of account and we expect them to bring them to us. We do not go looking for them around the premises, but we
5328 probably would look to see if there was a complete set of books furnished to us. We would ask them whether that was all.

After we go in and ask them if they have a private ledger, that is as far as we go. We would not necessarily start a physical search of the premises to see whether there was a private ledger or not.

5330 In order to certify to the correctness of accounts, it is necessary to examine all of the books and all of the documents that may be necessary, in order that we may satisfy ourselves that we have all of the information necessary for us to have.

I have met Mr. Gregory, comptroller of the Western Electric Company. My first meeting with him was on December 28, 1931, in his office at 195 Broadway, New York. There
5331 was present Mr. J. G. Wray I think, and probably Mr. McCann. Mr. J. G. Wray is one of the engineers employed by the City of Chicago in the present case. I had a conversation with Mr. Gregory at that time with regard to the examination to be made of the Western Electric Company's books and accounts.

5332 I told Mr. Gregory that Touche, Niven & Company had been employed on behalf of the City of Chicago to make a general investigation of the records of the Western Electric Company to determine its profits and return on investment for the years 1916 to 1930.

Mr. Gregory stated that he would be very glad to cooperate with us, provided we stated in writing the specific books and records we desired to see, and the nature of the

information that we wished the Western Electric Com-
5333 pany to supply, and that such request would be taken under advisement by the Western Electric Company and its counsel, and that we would be informed of the decision. The personnel of our organization was also advised of this information.

These inquiries into the affairs of the Western Electric Company and the American Telephone & Telegraph Company, in so far as Touche, Niven & Company are concerned, were in charge of Mr. McCann under my supervision, in New York, and Mr. Hagberg, in Chicago.

The work was under my general direction. I prepared a statement regarding the men who were employed and the time put in up to and including May 31st. I have it here.

(Said document was marked Defendant's Exhibit X-309, entitled, "Summary of Time by Hours, Touche, Niven & Co.")

5334 Some of the men were working in both New York and Chicago; there were some Chicago men working in New York, and Mr. McCann from our New York office was working here in Chicago. This listing then simply indicates the exact number of hours of Touche, Niven & Company with whom they are associated.

5335 This conversation with Mr. Gregory was on December 28, 1931.

Cross-Examination by Mr. Thompson.

5339 I have produced in court an instrument which is identified as Exhibit X-309, which shows the total number of hours spent by Touche, Niven in doing work in this case, of 7,465 hours. Practically all of it was spent examining the books of the Western Electric Company and its subsidiaries, or making the figures taken from those books. I should think that more than half of it was spent in
5340 examining the books themselves. More than one year's time of one man was spent in a direct examination of the books of the Western Electric Company and its subsidiaries, that were turned over to us for inspection.

I cannot say exactly when Exhibit X-79 was first prepared.

I cannot answer when I first saw it. I would say some time in the early part of the year probably January,
5341 1932. I do not know that it was submitted to me so that I could pass upon the question of whether Mr. McCann would testify to that sheet. I saw the exhibit, but it was not submitted to me for any particular purpose, except that they were all going to be used for this examination. I approved a great many exhibits; I do not know whether I approved this one or not.

"Q. Well, look at it now and see whether you approve of it.

A. What do you mean by that?

Q. Whether you think that is a fair statement of the facts.

A. In what respect?

Q. Just look at the exhibit; in any respect appearing on the exhibit.

5342 Judge Wilkerson: May I see it?

The Witness: The exhibit speaks for itself.

Mr. Thompson: I see. You do not care to look at it further, or to say whether this exhibit which has been put in by one of your employes fairly represents, in your opinion, the facts in this case?

A. I repeat that the exhibit speaks for itself.

Mr. Thompson: Will you read the question to the witness, please, Mr. Reporter?

Q. (Read by the reporter.)

The Witness: I am ready to answer any questions that they want to ask about it.

Mr. Thompson: Your Honor, I think I am entitled to an answer to that question. It is a very simple and plain question.

Judge Wilkerson: Well, he has answered it, has he not?

Mr. Thompson: Sir?

Judge Wilkerson: He has answered it, has he not? What was the question you asked him?

Mr. Thompson: Read the question again.

Q. (Again read by the reporter.)

A. I have already answered, that the exhibit speaks for itself, but I am further willing to give any further
5343 information that I may have in that connection."

(Plaintiff's Exhibits A-222 and A-223 were marked for identification.)

(It was agreed that Plaintiff's Exhibit A-222, which purports to show documents submitted to Touche, Niven & Company for examination in New York, from March 29, 1932, to May 9, 1932, and Exhibit A-223, which purports to show documents submitted to Touche, Niven & Company at Chicago from February 29, 1932, to June 13, 1932, both supplemental to the list contained in Plaintiff's Exhibit A-73, are correct.)

5344 My conversation with Mr. Gregory was on December 28, 1931. Mr. Gregory, did not, to my knowledge, say that there were cases pending in a number of other jurisdictions, where the Western Electric Company was being required to furnish a large amount of information for courts and commissions. I knew that was a fact. I knew that there was then pending a case before a master in the Federal Court in Michigan, involving the reasonableness of the Western Electric prices. I knew that there was then pending a case before a master in the Federal Court at San Antonio, involving the same question.

5345 I knew that there was then pending an investigation before the Public Service Commission in Ohio involving the same question. I knew that this case was then pending, also an investigation before the Public Service Commission of Wisconsin.

Mr. Gregory said that the practice was to make the request in writing. I made no protest or objection to that at all. I think I said to him, "That is satisfactory to me." I am not making any protest about it now.

5346 Exhibit X-79 relates itself wholly to its consideration of the Electric Research Products, Inc., and the investment of the Western Electric Company in that corporation.

There is no information which appears on that sheet other than information or data relating to Electrical Research Products, Inc., and the Western Electric Company's investment in that corporation. For the preparation of that exhibit, or for a knowledge of the facts in connection with it, all that I needed was the books of Electrical Research Products, and the books of the Western so far as the investment in Electrical Research Products by the Western Electric was concerned.

It is not entirely correct to say that when we started out, it was merely to ask the Western Electric Company to allow us to inspect its books and records, but to prepare statements for us.

5347 It is true, that time and time and time again in this correspondence, what we did was to request the Western Electric Company to prepare a statement which we wanted, that required work to be done by the Western Electric Company. We also asked them to see the books in several instances, in connection with our studies.

I recognize a letter that I wrote to the Western Electric Company on January 12, 1932.

(Letter marked Plaintiff's Exhibit A-224 for identification.)

I dictated the letter and signed it personally.

5348 (Carbon copy of letter marked Plaintiff's Exhibit A-225, for identification.)

I received the original, of which Exhibit A-225 is a carbon copy, which letter contains the following:

"It is understood that the books of Electrical Research Products, Inc., are open for your examination," and I do not know and I cannot answer whether, pursuant to that letter, all of the books of Electrical Research Products, Inc., were offered to us for our inspection and examination by the

5349 Western Electric Company and the Electrical Research Products Company. I have nothing personal with it,—beyond supervising,—I have not seen the books of Electrical Research Products myself at all. I had charge of this investigation.

Mr. McCann will have to state to the court, with respect to Exhibit X-79, what information we applied to the Western Electric Company for, in connection with that exhibit that was denied to us. He applied for the books, and he was

5350 instructed to see them. We have a list of the things that were denied. I do not have it with me; it is in the correspondence which Mr. Haight has.

To name the things denied us, I will have to get the correspondence, and show you the list that Mr. McCann has prepared. There are several of them. I cannot name

5351 one of them; Mr. McCann will present that.

Exhibit X-79 purports to show per cent return in

one year, 1929, of 309.4 per cent. It states what the investment was based on. I do not know what it was based on beyond what it says on the exhibit. I would have to refer to the working papers again.

5352 Statements are sometimes prepared showing the per cent of return which the Company was making on the original dollars invested in the business, excluding the earnings and surplus. I could not say whether I ever did it. I would have to get that information. Whether Exhibit X-79 takes into consideration the loans made by Electrical Research Products from the Western Electric Company, and used in the business I can find that out from the working papers. I cannot say without referring to those papers. I have seen the papers, but I would not answer that question directly, offhand.

5353 The capital invested in the foreign business is included in the statement of profits made by Electrical Research Products, Inc., on its foreign business. I would have to get the papers to tell whether in arriving at the figure of 309.4 per cent in Exhibit X-79 the capital invested in the foreign business is included. I do not know without looking at the papers. I knew that this exhibit was to be offered in evidence in court. I did not know the purpose; the only purpose I knew, was to show the return. I did not know what figures would be produced. I have seen the exhibit several times.

5354 "Q. Now, I want to ask you whether in your opinion it requires more information to enable you to certify to the statement—or the balance sheet of an industrial or manufacturing corporation, so that that sheet may go out and be used in the sale of the stock and bonds of the company, than it does to support sworn testimony on the witness stand, as to the facts?

Mr. Haight: I think that is an objectionable question.

Mr. Thompson: I think it is perfectly proper.

Judge Wilkerson: What is that question? I did not get it.

Mr. Thompson: Read the question, please.

Q. (Read by the reporter.)

Judge Wilkerson: I think that is a fair question, for the representative of an accounting firm. I will put it this way, if I may—

Mr. Thompson: Certainly.

Judge Wilkerson: If I may change your question.

Mr. Thompson: Certainly, your Honor.

Judge Wilkerson: Although perhaps I will not do as good a job as you, but I think this is what you would
5355 like to know about in connection with this exhibit. Now, we are getting at the practice, not the general practice among accountants, but the practice of your firm. Here is a statement, which you knew was to be offered in court, and was to come before the court, and three judges were to be asked to make a finding of the return based upon the percentages which you had estimated. You knew that; that is, you knew that that use was to be made of it.

The Witness: Yes.

Judge Wilkerson: You knew we were to be asked to adopt those percentages as indicating the return of the Electrical Research Products Company.

Now, just what is your practice, your general practice, where you are confronted with a situation of that kind, and you are denied access to some essential document, or some essential book? Is it your practice to make up papers from those books to which you have access, and send them in, or is it your practice to advise the court that you have not the necessary papers upon which to make an estimate?

The Witness: It is generally necessary to advise the court that we have not the necessary facts.

5356 Judge Wilkerson: So you had everything which in your opinion you thought was necessary to the ascertainment of these percentages, or you would have told the court that you did not have the documents, or the books from which to make them, would you not?

The Witness: Yes, sir.

Judge Wilkerson: All right; go on."

During the course of the examination which you were making of the Western Electric Company's books and records, we were giving some information to Mr. Goldstein ourselves. I suppose it was also coming directly from the Western Electric Company to Mr. Goldstein, as I was getting it. I knew we were not the only source through which information and examination of the Western Electric Company's books and records was being made by the City of Chicago.

First there was our firm, and we were operating both in New York and Chicago. And then there was Mr. Goldstein, who was to our knowledge writing many letters all the time about this question. The firm of James G. Wray also got information from the Western Electric Company during this period; also the Illinois Commerce Commission. There were four sources through which information was being obtained from the Western Electric Company.

Redirect Examination by Mr. Haight.

When I said that men were employed in working upon these books for more than a year's time, I meant one man, more than one year, but actually we have had many men who have been engaged on and off since last December. On a seven-hour day that would amount to about three years for one man.

K. E. THOLIN, recalled as a witness on behalf of the defendants, having been previously duly sworn, further testified as follows:

Direct Examination by Mr. Haight.

(June 18, 1932.)

My name is K. E. Tholin. I am connected with the Illinois Commerce Commission and I have testified here previously. I have had something to do with obtaining information from the American Telephone & Telegraph Company in this case. I have memos relating thereto. I have a carbon copy of a memorandum Number 1, dated September 29, 1931, addressed to the American Telephone & Telegraph Company.

(Counsel for plaintiff agreed that copies could be used, subject to check.)

The original of that was turned over to the American Telephone & Telegraph Company.

(The document was thereupon marked Defendants' Exhibit X-310, for identification, entitled "Memorandum re Requests, including Defendant's Request of July 13, 1931.")

Item 1 in Exhibit X-310 was refused for legal reasons by Mr. Heiss. I went to New York in connection with this
5362 matter. I arrived at the offices of the American Telephone & Telegraph Company on September 28, 1931. The memorandum is dated September 29th, and to my best recollection I conferred with Mr. Heiss the next day, the 30th of September.

The conference was arranged in response to this memorandum, in order to obtain Mr. Heiss' reply, and the gist of the conversation regarding this particular item was that it would be refused us for legal reasons. Items 2 and 3 were refused at the same time as Item 1.

(Counsel for defendant states that notwithstanding
5363 those refusals as to those three items later, not the books, but the information, said to be the information here called for, was furnished.)

The fourth item relating to letters from the Inter-
5364 nal Revenue Department covering income tax returns, with reference to the adjustment of income tax, or rebate of the tax, to the American Telephone & Telegraph Company, or any of its subsidiaries prior to 1930, was refused. It has not been complied with as far as the matter comes within my knowledge.

5365 (Counsel for defendants states that the income tax returns themselves were furnished and that the failure relates only to the correspondence with the department.)

On October 5th I sent another memorandum to the American Telephone & Telegraph Company numbered 8.

5385 My memorandum of October 5, 1931, called for the following information relating to the Federal income tax returns for the years 1921 and 1930:

"In connection with the above-named schedules, kindly furnish details of the proportionate taxes paid by each company for which the consolidated returns have been made. These details should include not only the computations of the tax payments, but also the entries, billing the various companies. The same data for other years of the period 1918 to 1930 may be requested at a later date."

5386 I must explain that Mr. Rainwater and I, who were down in New York, were told to bring our requests to Mr. Olander, who would take care of them, and forward them to the proper parties; and this request was turned over

to Mr. Olander, and later he advised me that this request would be refused for the year 1921, and also for the year 1930, with the exception that I would be furnished the billing pertaining to the Illinois Bell Telephone Company for the year 1930.

The information with respect to the associated companies was refused.

Mr. Olander is a gentleman employed by the American Telephone & Telegraph Company.

The next memorandum is dated October 5, 1931, and is addressed to the Western Electric Company. Item 2
5387 of this memorandum was refused. The questions 16, 17, 18, 19, 31, 34, 35, 39, 41, 42 and 50 referred to in Item 2 are found in defendants' request made July 13, 1931, regarding Western Electric relationship to the Bell System in *Illinois Bell Telephone Company* v. *Frank L. Smith, et al.*, and covers a list of fifty-seven questions, of which these particular items are some. I have a copy of that communication.

5388 (Said document was marked for identification, as part of Defendants' Exhibit X-310.)

I understand that this request of July 13, 1931, was made in this form; that it was made direct by counsel, and the Western Electric had a copy of it, and I simply referred to the questions by number as indicated in Item 2 of my memorandum of October 5th.

(Witness withdrawn.)

(Statement by Mr. Haight): "Items 16, 17, 18, 19 and
5389 31 refer to patents. In so far as some of those memos refer to patent applications pending, it is admitted that it is likely defendants were not entitled to them.

In respect to Item 34, which is a request in regard to cost of development by Western Electric by year, of permalloy and permalloy loaded cable, and other items related to permalloy, that information was at least to some extent given on the witness stand by Mr. Gregory. In regard to Item 35, which asks for copy of the telephone department budget for each year 1911 to 1930, both inclusive, together with copy of each of the subsidiary budgets on which it is based, including budgets on sales, gross income, expense, net profit, investments, and to furnish copy of Western Electric budget for each department other than the telephone de-

partment budget, together with correspondence, subsidiary budgets, certain figures in respect to some of that were obtained after January 1st this year, through binders, of which we have had some discussion on this record.

In regard to Item 39, which relates to purchases of American Telephone & Telegraph stock by Western Electric
5390 employes, and the other items therein referred to, cannot complain as to all of that, because some of it has been furnished during the course of the hearing.

Item 41, "Furnish list by years 1882 to 1890, both inclusive of the Western Electric and American Telephone & Telegraph Company patents for which foreign patents were held by, or for foreign subsidiaries." As to that, we will argue whether we are entitled to it or not. That is an arguable matter, and I don't want to stop for that.

Item 42, to furnish list of Western Electric personnel who became Bell licensees 1900 to 1924, both inclusive, and mail inventions embodied in apparatus manufactured by Western Electric or by its foreign subsidiaries. With respect to that, it is admitted that we were told that the books were available for any such investigations as we wanted to make.

5392 Number 50 was "Furnish the statements showing patents applied for and/or granted to Western Electric employes and/or Bell Telephone Laboratory employes for each year 1914 to 1930, both inclusive, and apparatus to which they have application."

With respect to this, we were told that the entire patent file of the Western Electric was open for our inspection."

5395 GEORGE B. McCANN, a witness on behalf of the defendants, having been previously duly sworn, resumed the stand, and testified further as follows:

Direct Examination by Mr. Haight.

(June 18, 1932.)

I have made several requests in writing of the Western Electric Company for information. I have certain of the copies of these written requests. The first one is a letter of January 12, 1932, addressed to Mr. Gregory. I received an

answer to item 4, on the letter of Jan. 12, 1932, but it was not the information that we requested at the time.

5396 Item 4 is entitled "Basis of Profits on Deferred Payments on Installment Sales, *i. e.*, a description of deferred receivables." Under date of January 13, Mr. Gregory replied stating that he would furnish us with the information. Under date of January 19, 1932, we received a further reply from Mr. Gregory, who furnished us at that time, in answer to item 4, a statement showing by years analysis of deferred receivables on monthly report number 1. This was not the information that we requested under date of January 12th. We asked for a description of deferred receivables. We desired to know the basis upon which the Electrical Research Products, Inc. took up its profit on deferred payments on installment sales. Instead, the company furnished us with an analysis of receivables at the end of each year, which was simply a statement of the name of the particular customer, and the amount outstanding at the end of the year.

The next request is dated February 3, 1932. It is a 5397 written request in this file of documents that has been marked for identification Defendants' Exhibit X-311, entitled "Correspondence re requests (McCann) including letters of Jan. 12, Jan. 13, Jan. 19, Feb. 3, Feb. 8, Feb. 9, Feb. 11, Feb. 26, Feb. 26, Mar. 8, April 21, May 5, May 6, May 6, Feb. 4, Feb. 8, Feb. 8, Feb. 27, Feb. 15, 1932. (Touche, Niven & Co.)." There are two items here that were not answered, or were not answered in the manner in which asked. The first item appears as item 3 of that letter, asking for plant appropriation, years 1924 to 1930, inclusive. The second item was item 8, amount receivable by years on unexpired license contracts of Electrical Research Products, Inc., as of December 31, 1930, together with probable cost of servicing such contracts.

Item 3, plant appropriation, years 1924 to 1930 could have been used to ascertain the following information: first, they serve as a check against plant additions as shown by the books, to determine whether all expenditures for plant have been properly capitalized, or any portion thereof charged to expense.

Second: They disclose the purpose for which the new plant is being built, and thereby reveal the character of

5398 plant as between one class of business or another, and as between Bell or non-Bell business.

Third: They disclose whether the new plant is being constructed to replace existing plant, and thereby serve as a check against the plant retirements, as shown by the books.

Fourth: They disclose whether the new plant is for future development, or for presently used and useful property.

5399 I received two replies in writing to that request. Under date of February 9th, the company advised me with respect to this item, "We will advise you later with respect to this request." Under date of February 11th, the company stated, "We decline to furnish for examination data with respect to plant appropriations, years 1924 to 1930, inclusive." I am reading from letters that I received and that are in this exhibit.

5400 The last quotation was from letter of February 11th, from the Western Electric Company, signed by Mr. Gregory, comptroller. I have not had any of that information.

5401 In respect to item 8 of that request, a letter received from Western Electric Company under date of February 26th shows the complete interchange of correspondence relating to this particular item. The final answer of the Western Electric Company is contained in the last paragraph of that letter, which states, "We have no information, and we do not propose to make any estimates, of either (1) the revenue which will be derived in subsequent years from the contracts in force on December 31, '30, or, (2) the probable cost to Electrical Research Products, Inc. of furnishing the service required under the contracts referred to."

The next item is a letter dated March 8, addressed to Mr. R. H. Gregory. That letter asks for six items. I did not receive item 1 and item 5. Item 1 was a copy of the op-

5402 tion agreement. Item 5 is correspondence with and statements showing findings of the Internal Revenue Department relative to federal income taxes of the Western Electric Company and its subsidiaries for the years 1924 to '30, inclusive.

If the information had been made available to me, I would have used it for the following purposes:

1: To determine whether there was any additional
5403 liability on the part of the company for federal income taxes for prior years.

2: To determine whether there was any refund due to the corporation on account of taxes paid in prior years.

3: The findings of the Internal Revenue Department may disclose transactions of a special character which are not otherwise brought to the attention of the auditor.

4: The findings frequently disclose the manner in which profit is taken up by the corporation on installment or deferred payment sales, and gives the auditor a base from which to form his own opinion.

5: The findings also frequently disclose the manner in which a corporation treats items of a capital nature, such as plant additions and patents.

6: The findings also disclose any items of expense disallowed by the Internal Revenue Department. The importance of this disclosure is that it brings the items to the attention of the auditor, and thus gives him the opportunity to pass his own judgment upon them.

5404. The next document in this exhibit is a letter to the Western Electric of April 21, 1932 as follows:

"Will you kindly make available for our examination the working papers showing detail by years underlying Defendants' Exhibit D-61, entitled, 'Analysis of profits on business other than with Bell Telephone Company from 1881 to 1927, inclusive.'"

I received a reply to that under date of May 5, 1932. I was furnished with a statement showing analysis by years of the profits shown by Exhibit D-61. This was not the information that we requested. We requested the working papers underlying the exhibit, not an analysis by years. The working pa-
pers of Exhibit D-61 might have been used for two pur-
5405 poses—to determine (1) the extent to which the non-Bell profits remained in the business to the opening date of Mr. Gregory's Exhibit A-79, referring to non-Bell assets and (2), the extent to which the non-Bell profits of the Western Electric Company contributed toward the amount received by the A. T. & T. in 1920, from the retirement of 146,050 shares of preferred stock which the A. T. & T. received in 1915.

The shares referred to represent the preferred stock which was received in 1915, together with an equal number of common shares in exchange for the common stock of the Western Electric which the A. T. & T. then held.

There was no reply by me in writing to the letter of May 5th, 1932. I called Mr. Gregory on the telephone in the afternoon of May 6th, and he informed me at that time that the working papers underlying Exhibit D-61 would be furnished in Chicago if counsel approved.

5406 The next item in this exhibit is a letter dated February 4, 1932, addressed to American Telephone & Telegraph Company as follows:

"We have been requested by Mr. Goldstein to obtain from you a statement showing details of all rate increases and revenues received therefrom in towns of over 25,000 by companies for the years 1923 to 1930, inclusive."

5407 We received a reply from the American Telephone & Telegraph Company under date of February 8, 1932, signed by Mr. C. A. Heiss, comptroller, in which he states, in part: "I have referred this request to our legal department, who advise that this request should be declined."

I do not know anything further about that. The next item in my exhibit is a letter dated February 8, 1932, addressed to the American Telephone & Telegraph Company.

Item 2 and item 8, in that letter I did not receive. Item 2 is Executive committee authorizations for allotments, stock, loans and so forth, years 1920 to 1930, inclusive, and Item 8 is investment in stock of Western Electric Company, showing acquisition by number of shares, and cost, from January 1, 1906 to December 31, 1915.

5408 Under date of February 27, we received a reply from the American Telephone & Telegraph Company, signed by Mr. C. A. Heiss, as comptroller, the next document in this exhibit. The answer to question 2 is "The Attorneys for the City of Chicago are familiar with this company's position regarding the furnishing of proceedings of our Executive Committee."

The answer to item 8 reads in part, "We are not furnishing data for predecessor company covering period 1906 to 1915." Without the information as to the cost of the Western Electric stock acquired by the American Telephone & Telegraph

Company prior to 1915, we are unable to substantiate the cost to the American Telephone & Telegraph Company of its stock investment in the Western Electric Company as of December 31, 1915."

5409 (Defendants' Exhibit X-311 and Defendants' Exhibits X-305 and X-306 identified by Miss Galster, offered and received in evidence.)

5410 (Plaintiff's Exhibits A-220 to A-221 identified by Miss Galster on cross-examination, offered and received in evidence.)

5411 *Cross-Examination by Mr. Thompson.*

I have now stated all the information that has been in any way denied and of which I now complain. This is the complete story.

With respect to the letter of January 12, 1932, the fourth specification "Basis of profit on deferred payments on installment sales, that is, a description of deferred receivables" I was not seeking by that request the amount of profits on deferred receivables. I was simply seeking the basis upon

5412 which they were handled by the Electrical Research Products. I should say that the request was made by myself and by counsel jointly. That is, we did want the information on Electrical Research Products.

"Q. When you made the request, did you know that Mr. John E. Otterson, the president of the Electrical Research Products, had testified in a deposition for and on behalf of the defendants, in either late December or early January, as to the exact basis of profit of Electrical Research Products on deferred payments?

A. I knew he had testified but I was not familiar with what he had testified to."

5413 I saw an abstract of Mr. Otterson's testimony. Whether I saw it before or after the date of this request I don't know. I received so many things that I couldn't say whether it was before or after.

5414 I have received so many things that it is difficult to pin down to one particular item. As to whether I have been in any way hampered in my work by failing to know the basis of profit on deferred payments on the installment sales, of the Electrical Research Products, I think it is obvious, if I ask a question, I have a certain purpose. I wanted to know the facts, I wanted to get it in writing from the company. I

did not have it directly as such under oath from the president of the Electrical Research Products. I mean, I don't know whether I had that testimony, or abstract, at the time I wrote this letter, or not.

5415 I am not familiar with the questions that Mr. Goldstein put to Mr. Otterson. It might be said with respect to this particular item that I was seeking to get the information without respect to whether it had been obtained through other sources. I can't say whether I requested a great many things that were duplications. I tried, in so far as possible, to get answers from the accounting executives.

"Q. I see. Your proposition was that, although the information had been furnished thru the legal department of the plaintiff, that what you wanted also was to get the same information from the accounting department, is that correct?

A. I was making an independent investigation."

I was not familiar with everything that had been furnished through the legal department.

5416 I wouldn't say I was doing the whole thing over. I may have overlapped on certain items.

Our request letter of February 4, 1930, in X-311 reads as follows:

"We have been requested by Mr. Goldstein to obtain from you a statement showing details of all rate increases and the revenue received therefrom in towns of over 25,000, by companies, for the years '23 to '30, inclusive."

That request was denied.

5418 This has no relation to X-79 whatever. I did not ask the American Telephone & Telegraph Company to give me access to the records which show this. I wanted them to get up a statement showing the details of all rate increases "And the revenue received therefrom in every town over 25,000, throughout the United States, by companies, for the years 1923 to 1930." I didn't know when I made this inquiry whether it would be given to me.

5419 I am not familiar with rate schedules.

(Rate schedule, for the town of Peoria, Illinois, taken from the file of the Illinois Bell Telephone Company, marked as Plaintiff's Exhibit A-226.)

There appears to be forty-five different rates for exchange service only on that rate schedule. I don't know whether the

inquiry was or was not limited to exchange rates. I made it at the request of counsel. I think the letter speaks for itself.

5420 I had no idea what would be furnished or whether there would be furnished; if this request was complied with, not only the exchange schedule of every city of over 25,000 people throughout the United States for this eight or nine-year period, but also the toll schedules.

I don't know how many towns in the United States there are with over 25,000 population served by the American Telephone & Telegraph Company and its subsidiaries. I don't know whether it is over three hundred.

I have already stated that I made the request at the request of counsel.

5421 I didn't know whether the request would be refused. I made it because I was asked to make it. Mr. Goldstein did not say to me what his purpose was in making this request. I didn't know whether to get the revenue received therefrom, would require a regrade study. I am not familiar with it. I do not know now. I do not know it to be a fact that when you attempt to get the revenue received from increased rates, that there is regrading, that is, that subscribers go from one service, where the rate is increased, to a lower grade of service, and that it would have required a study of weeks in each of those exchanges to have furnished the information.

5422 I do not know about rate schedules or increased rates, or what they have to do to find out how much revenue comes from increased rates. I am not familiar with any of that at all. I am not familiar with telephone accounting at all. Mr. Goldstein did not tell me why he wanted this information.

The request did not appear so ridiculous to me that I did not want to make it in this letter, and sign Touche, Niven's name to the letter, with the statement that I had been requested by Mr. Goldstein. The reason I wrote that let-

5423 ter in that particular fashion was because I personally did not want the information. I did not know what it was to be used for. I had no knowledge of how much was to be furnished or whether it would be furnished.

As to No. 8 of the letter of February 3d, "Amount received

by years on unexpired license contracts of Electrical Research Products, Inc. as of December 31, 1930, together with the probable cost of servicing such contracts" I don't recall whether I had some conversation with Mr. Gregory about this request. I believe that these are the servicing contracts on moving picture reproduction machines that are in theaters scattered throughout the United States. It is not a deferred receivable item at all.

5424 The conversation with Mr. Gregory was substantially as follows: I went to Mr. Gregory and said, "I have a request here," and Mr. Gregory looked at the request and said, "There are three things about that that make it impossible for us to do it. The first is, these contracts run for ten years in the future, some of them, and we don't know the payments that will be made under them by these moving picture theaters. Second, we, of course, don't know the probable cost of servicing in the future, because the expense incident to it may change. Third, we don't know how many of these theaters will be in existence during the unexpired life of these contracts," and that under the circumstances, it was impossible to make such an estimate; that if it were made, it would be a mere guess, and worthless. I don't know that I made any statement as to whether I agreed or disagreed with him.

5425 There was no reason to protest. He stated his position, and the matter was dropped. I said to him I could not see any relevancy that this request had to anything in this case, so far as my figures were concerned. What counsel wanted to make of it, I didn't know. I don't know whether I agreed with him, either by direct statement or by implication, that when the statement was prepared, it would not mean anything. I don't deny that the conversation took place. I don't think that it is, strictly speaking, an accounting matter. I wouldn't say that from the standpoint of dealing with the facts and the figures, a statement of that kind, if it were

5426 prepared, would mean nothing. It would give some estimate of what the future earnings on those contracts would be. I could not make that guess, just as well as anyone else. What I expected was an accounting officer of the Western Electric who was familiar with the conditions, to make that guess for me. The number of these theaters to be in existence during this ten-year period, would be involved in

it. He has past experience to go by, as to what the cost of servicing would be, eight and nine and ten years from the time he was making the estimate. The cost of servicing
5427 was involved in it. I don't know whether the prices the Western would charge in the future would be involved in it or not. I have testified about the refusal of the Western Electric Company to furnish plant appropriations. I don't know that they were estimates made by the Board of Directors of what will be required during the current year for plant requirements. I never saw them. I said what plant appropriations in general could be used for. I didn't say what the plant appropriations of the Western Electric would
5428 show. I do not know what they show. I never saw them.

The information on Exhibit A-227 was furnished to
5429 the defendants in this case by the Western Electric Company. I don't know when. I don't know whether it was furnished at the time I made the request for these plant appropriations. It was not furnished directly to me. I received it sometime subsequently. I saw it long before I prepared the exhibits which I put in in this case. That statement shows by each of the years 1916 to 1930, the net increase in plant divided between land, buildings, service, equipment, machinery and small tools, and furniture and fixtures, and the total. I believe that it gives the opening entry as of December 31, 1915, and the closing entry as of December 31, 1930.

We made no request of the Western Electric Company to examine their books as to what actually had been done
5430 about additions to plant in any way. The only request is the one referring to appropriations. In other words, I had a statement made up by the Western Electric Company that showed, by accounts, for each of the years involved in this inquiry, the additions that had been made to plant, but I wouldn't say that I had free access to the books of the Western Electric Company to find out whether that statement was true or not. I don't think we understand each other on the term "free access." Free access to me, means that I have the right to look at any book, without making a formal written request, and having it passed upon by counsel.

5431 I don't say that I expected that I could go down to the office of the Western Electric Company in New York,

and see anything that they had and determine myself whether it related to this controversy or not. I am simply defining my interpretation of "free access."

5432 As an accountant the ordinary and normal course when I am examining records is, that every book, record, paper, correspondence file, whatever it may be, is to be absolutely at my free disposal, if I think it relates to the subject matter I am examining. I am to determine what relates to the subject matter that I am examining. The company, whose records I am examining, doesn't get an unqualified certificate if they object. I don't know what requests I have made would relate to X-79. This plant appropriation might, and it might not. The plant appropriations of Western

5433 does not relate to the earnings of the Electrical Research Products but they might relate to the assets of Electrical Research Products. Heretofore when asked about whether I would certify or not, I said so many elements entered into it that I could not answer the question.

I don't believe it is a fact that I was taken off the witness stand, and came back the next day and said that I could not certify to that statement, because I had been denied information.

5434 If you want to know definitely why I wouldn't certify X-79, it is simply because I did not have free access to all of the books, documents, papers, correspondence, and everything that related to the company. I think that my testimony this morning covers everything that I was denied, or refused access to, that had any relation whatever to the work I did on X-79. I think they are all here.

5435 Item 4, "Basis of profit on deferred payments on installment sales" in the letter of January 12th, related itself to X-79. I seriously advance that. What I was doing in Exhibit X-79 was to show the profit from operations of the Electrical Research Products, Inc., and the percentage of return for the years 1927 to 1930. What I wanted to know in this request was the basis of profit on deferred receivables. The books were open to me, the letter so states. The letter dated February 9, 1932, states that I was given full access to Erpi's books, but when I asked for the books I had to mention specific instances and specific books. I don't call that free access. The journal entries, the cash books and the ledgers,

were all turned over to me for my examination, as re-
5436 quested by me for specific ones. I don't know whether
I got them all or not. My complaint is that you said I had free access, and I said I didn't.

Besides item 4, wherein I was denied access to information that underlies Exhibit X-79, there was the correspondence with and filings of the Internal Revenue Department, in so far as they relate to Electrical Research Products. Also there is Item 1 of the same letter, which asks for copy of an option agreement sold by Western Electric Research Products, Inc., in 1927. I am not familiar with what took place in court and
do not know that when Mr. Gregory was on the witness
5437 stand on the 24th day of March, that Mr. Goldstein re-
quested a copy of that option agreement, and was advised that it was on the train here, and that it was furnished to him the next day.

I don't know whether everything contained in that Number 1 request was testified to by Mr. Gregory on the witness stand under oath. I don't know what he testified to. At the time I made this request, I don't think anything had been testified to in respect to that.

"Q. I see. What you are doing, then, you are not giving what has finally been denied, or the information that they
haven't got, but you are just giving what was denied to
5438 you?

A. I can only testify to those facts of which I have personal knowledge.

Q. Didn't you go over this carefully? Is it not the purpose of this to show what had ultimately been refused?

A. The purpose was to show what had been refused me.

Q. All right. And that is as far as you go?

A. 'Yes.'"

As to whether the foregoing are all the things that could possibly relate to X-79, Item 8 of this letter of Feb. 3rd might or might not. I don't know, I was not furnished the information. I cannot pass upon it. The denials of informa-
tion underlying D-61 may or may not be involved. I do
5439 not know that they are not involved. Those were the
details that had to do with the non-Bell profits of the Western, prior to 1925, and I excluded in my Exhibit X-79 any consideration in anything excepting Erpi's operating

profit. D-69 couldn't have had anything to do with it, except so far as allocation between Bell and non-Bell is concerned. I do not make any allocation in D-61 between Bell and non-Bell, but D-61 is tied up with the dividend paid by the Western and the Electrical Research in 1923. I made the statement that D-61 might or might not have some bearing on it, I don't know. I never saw the working papers underlying D-61 when I made my study.

5440 In Exhibit X-311, a letter dated February 15th, is as follows:

"Verbal request made about 12:00 midday. Informed at 3:15 to put through written request. Request put through at 3:55. Asked about three times between 4:15 and 5:30. Informed at 5:40 the men had gone home who handled the folder. Received the folder at 10:00 a. m., 2-16-32."

If all that I say there is entirely accurate, I had a delay in the matter from noon of the day until ten the next morning. That is the only delay I have listed in this exhibit X-311.

5441 There are several delays, but they are not all reduced to writing. I am not claiming anything with respect to those delays.

(June 20, 1932.)

5442 I said previously that the failure to give the plant appropriations of the Western from 1924 to 1930 might have affected the work that I did in connection with X-79. Since I have not seen the plant appropriations, and I do not know whether they cover the Western and subsidiaries, or only the Western, it is pretty hard for me to give a definite answer as to how the failure to get the information would affect X-79. The plant appropriations were asked for

5443 as to the Western only; but still, I do not know whether the plant appropriations would cover subsidiaries or not.

"Q. How could it possibly have affected the situation with respect to Exhibit X-79? There you were only including the average investment of the Western in the Electrical Research Products, which did not include any plant investment at all, and you were only ascertaining the earnings of the Western Electric Company on the original dollars invested by it in Electrical Research Products.

A. The Electrical Research Products has a certain amount of plant."

I did not ask for the plant appropriations of Electrical Research Products, Inc.

If these plant appropriations of the Western Electric Company only covered the Western Electric Company, it would not affect Exhibit X-79. That is all I asked for.

5444 I testified about a refusal of a request to give us the basis of profits on deferred payments, on installment sales, that is, a description of deferred receivables. That request was made on January 12, 1932, I think. I have not the letter in front of me. To what extent Mr. John E. Otterson had testified in connection with that particular matter in January 1932, I didn't know, because I never made a very thorough examination of his testimony. I said I had seen an abstract of Mr. Otterson's testimony before I was on the witness stand. I was here saying that not only had there been a refusal to furnish this information, basis of profits, on deferred payments, but possibly it might have interfered with my work in the preparation of Exhibit X-79.

5445 (Counsel reads from the deposition of John E. Otterson, on redirect examination by Mr. Goldstein taken January 13, 1932):

"Question: Mr. Otterson, you stated at the previous hearing that there were four classes of transactions: So that we may have it correct, I will ask you if you stated that one is the outright sale of equipment; the second is sales of equipment on the installment plan; the third, the licensing or renting of equipment where title to the equipment is retained by the Electrical Research Products, and fourth, royalties received for the use of processes. Are those four classes of transactions correctly stated?

Answer: I think so.

Question: Are there any other classes of trans-
5446 actions by the Electrical Research Products other than those four mentioned or does that include the entire system of activity of the Electrical Research Products Company?

Answer: May I have that other question read?

Answer: I think those cover all the activities. I do not think, however, that is a complete statement.

Question: But in a general way, that covers it?

Answer: Yes.

Question: With reference to the sales of equipment on the installment plan—"

(Testimony of witness):

That is the thing we are talking about.

(Deposition continues):

"—the purchase price of the equipment, as I understand it, is entered as in the year in which the sale is made, is that correct?

Answer: Yes.

Question: Is the entire amount of the purchase price of the sale of equipment which is sold on the installment
5447 plan, considered as income in the year in which it is sold?

Answer: Yes.

Question: In other words, if a piece of equipment for $100,000 is sold, payable over a period of years, you enter the $100,000 for accounting purposes as income in the first year?

Answer: That is right.

Question: And the entire expense including the cost of the equipment is deducted in the first year against that income?

Answer: Yes.

Question: Now, with reference to the third class of equipment, that is the equipment where the title is retained by Electrical Research Products, and a license given for the use of that equipment over a period of years, are the license payments—the entire amount of license payments called for by the contract, entered as income in the first year?

Answer: Yes, except where the payments relate to service and not to apparatus. That is where the services are to be performed later.

Question: To get that picture clearer, will you
5448 give a concrete instance of one transaction of that sort, a typical case?

Answer: Well, if we sold equipment to a theater, that will be sold generally on a ten-year lease. The payments on account of the apparatus itself would be spread over a three-year period. The payments on account of the service is spread over the ten-year period. The entire payments which are due over the three-year period on account of the

apparatus, are taken up on the books as income in the year of sale or installation and the expenses in connection with the cost of that apparatus are also taken up on the books at the same time, and the profit that will be indicated during that year as related to that transaction, will be the difference between those two. The amount of payment which has not been made at the time, are carried as receivables. The service charges are taken up as they are received during the year in which the service is rendered."

(Witness continues):

From what has been read, it is apparent that the basis
5449 of profits on deferred payments are clearly and perfectly stated in this record by the sworn testimony of the president of the Electrical Research Products, Inc., on the 13th day of January, 1932. I knew that that testimony had been given. I did not know when it had been given.
5450 I knew it had been given. I did not know exactly what the testimony covered.

In answer to the question as to whether my work was interfered with I say that I did not get an answer to
5451 my letter, and I assumed from the failure of an answer to my letter that they were not furnishing me with that information. I had no knowledge of what any of their officers had testified to. I was in New York and the lawyers in the case were here in Chicago. I didn't even know that the deposition was taken in New York. These requests for information were not all approved by counsel. I think they knew I was making this request for the information about the deferred payments, but I would not be sure. I think they knew I was making it.

5452 My letter in connection with the basis of profits on deferred payments was January 12, 1932. In the accounting of the Western Electric Company I believe that deferred receivables and deferred accounts receivables are two different classifications. On January 19th, as shown on the third page of this letter, Mr. Gregory sent me a statement showing, by years, an analysis of deferred receivables
5453 on monthly report No. 1. In his letter he said:

"In addition to the item known as the deferred receivables, there are deferred accounts receivable covering deferred payments on sound picture installations, not due.

Those are included in monthly report No. 1, accounts receivable, as follows."

And then he sets them out. They run from six to eight million dollars for 1928, 1929 and 1930. After that I did not request further information from Mr. Gregory in connection with this subject matter.

"Q. In other words, the situation about which you complain is this: He sent you a list of what were the deferred receivables, the exact thing that you had inquired about, and then he told you that there were deferred accounts receivables, and gave the amount of them, and you made no further inquiry about it?

A. I think I made a verbal inquiry, but I do not recall just now what I did say.

Q. It is further a fact that you know there was a
5454 misunderstanding about this, and that on January 9th—no, on February 11th, Mr. Gregory wrote you on a letter that is contained in your Exhibit X-311, referring to another item that you were inquiring about as shown by your letter of February 9, 1932, an analysis by years of accounts receivable and so forth, that 'With respect to that item, we understand that you are changing these requests. You may therefore consider the answers given, namely, on February 9th, as withdrawn, pending the receipts of further information from you.'

Did you ever give him any further information about it?

A. I do not think the two things are exactly related.

Q. No, I know they are not, Mr. McCann, but there were three things here: There were deferred receivables, deferred accounts receivable and these future payments due on account of services, and I am asking you if it is not a fact that there was a clear misunderstanding between you and Mr. Gregory about it, and that after that misunderstanding developed, you made no further request for any information?

A. I do not think that is a statement of facts, because there is a letter of February 26th, in which—

5455 Q. All right. Is it here?

A. It is. Our letter of February 26th, to the Western Electric Company, and Mr. Gregory's letter of February 26th, addressed to us.

Q. Is this letter of February 26th a repetition, in your

opinion, of the request No. 4 in the letter of January 12th?
A. "No, it is not."

I have stated that I made a request under date of February 8, 1932, which reads as follows:

"Executive Committee authorizations for allotments, stock purchases, loans and so forth, for the years 1920 to 1930, inclusive."

Referring to the language, "and so forth"; it was my position that I should be allowed to examine, pursuant to this request, all of the executive committee authorizations of the American Telephone & Telegraph Company. Apparently the substance of this request was that the entire minute book of the executive committee of the American Telephone &
Telegraph Company should be turned over to me for
5456 my uncontrolled inspection. By "uncontrolled," is meant not that I should take it away, of course, but that I should have the perfect right to examine anything contained in the minutes of the executive committee. That was denied. I am not familiar with the situation as to whether the minute book for that period of time was here in Chicago, when I testified on Saturday and that the court was to determine which of the minutes of the executive committee were properly admissible in evidence here. I knew there was some discussion about the minute books.

In regard to my statement that there was a refusal to furnish copy of an option agreement sold by the Electrical Research Products, Inc. in 1927, that request was made
5457 under date of March 8th. I do not know that I understood that I was advised orally by Mr. Gregory, that he was soon to be on the witness stand, and that counsel for plaintiff had advised Mr. Goldstein that these requests would be answered from the witness stand by Mr. Gregory.

Mr. Gregory talked to me about this request and my impression was that the whole thing was to be referred to counsel. He may have mentioned the witness stand and he may not. I am not certain of that. I understand that Mr. Gregory went on the witness stand and did on March 25, 1932 produce this document that I have indicated a refusal to produce here. I knew that before I went on the witness stand. I knew also that he had testified in open court in the latter part of March. I did not know the exact nature of his

5458 testimony. I was told by counsel that he had testified about the option agreement.

(An instrument which has been identified as D-61 was marked Exhibit A-227.)

This exhibit is an analysis of profits on business other than with the Bell Company from 1881 to 1927, inclusive. I have seen that instrument before. I did not know when it was furnished. I assumed it was not an exhibit that the plaintiff had introduced or offered in evidence in this cause, be-

5459 cause it was not so identified. After that paper (Exhibit A-227) had been furnished to Mr. Goldstein, there was prepared by the Western Electric Company and delivered to me at my request an instrument which was originally marked Exhibit X-102, and which is now identified as Exhibit A-228.

(Document marked Exhibit A-228).

That instrument shows an analysis of the profits of business other than the Bell Telephone companies from 1881 to 1927, inclusive, by years, and groups of years. I do not believe it is a fact that after that had been furnished to me, I requested the right to inspect the underlying data that had been used by Mr. Gregory in the preparation of A-228. I asked for the underlying work papers before I was supplied with the exhibit that you just showed me.

(Document of two sheets was marked Exhibit A-229.)

5460 I have not seen the two sheets identified as Exhibit A-229, entitled "Statement showing analysis of profits on business other than with Bell customers," expressed in dollars of thousands. I could not say whether my men saw them because I do not know. If my men copied these two sheets, it must have been done here in Chicago. I had no knowledge. I never saw those sheets. I could not say whether these were copied or not. I am not familiar with it. If they

5461 were turned over to employes of Touche, Niven & Company, and were actually copied, that is not in compliance with my request. I don't know whether that was done or not.

"Q. I will ask you whether you were not furnished in New York for your inspection all of the books and records of all of the subsidiaries of the Electrical Research Products—I

mean of the Western Electric Company, for the years 1916 to 1931?

A. I was only given those particular books that I asked for."

There never was a refusal to furnish me, at my request, the books or records of any of the subsidiaries of the Western Electric Company for the period 1916 to 1931. I do not think I am complaining of anything. I merely made certain statements in connection with these letters. I do not think that I claim that I was not allowed to examine the books.
5462 I think I asked for work papers which were denied me. The entire request was the work papers underlying D-61.

Mr. Hagberg was working on this case for Touche, Niven & Company. I do not know whether or not Mr. Hagberg made copies of these papers, Exhibit A-229.

I did not examine the contract between the Electrical
5463 Research Products and the Gary interests in connection with the granting of an option after that contract had been furnished by Mr. Gregory.

I wanted to see all the correspondence with the Commissioner of Internal Revenue or his representatives, and the Western Electric Company, in conection with the income tax returns of the Western Electric Company, and any differences between the company and the Government with respect to income tax. I was not furnished photostatic copies of all the Western Electric Company's income tax returns for the years 1916 to 1930. I do not know that they were furnished to the City of Chicago. Before this correspondence
5464 would have been of any use to me, I would have had to have seen their consolidated income tax returns. I saw the consolidated tax return of the A. T. & T. I do not believe that I saw the income tax returns for the Western from 1916 to 1917. I do not recall seeing them. I have prepared exhibits in this case which show the difference between the Western's income taxes as included in Exhibits A-77, A-78, A-79 and A-80 and the amounts allowed by the government for the years 1916-1930. From 1918 to 1930 the figures were taken from the consolidated tax returns. The figures from 1916 to 1917 I got on statements supplied by the Western Electric Company. I had the information any-

way as to the amount of taxes. I was also furnished
5465 with the complete reconciliation statement of income taxes. It appears to consist of twenty-two sheets.

From the use of the consolidated income tax returns of the American Telegraph & Telephone Company and the Western for the years 1918 to 1930, and by the use of the separate returns, or statements in connection with that company, for the Western, for 1916 and 1917, and this reconciliation statement, it was possible for me to tell the difference between the amounts claimed by the Western as in Exhibits A-77, A-78 and A-79, and A-80, and the amounts allowed by the Government for income tax purposes, in
5466 so far as those claims had been settled. For the years 1924 to 1930, the fact that there was a reconciliation did not necessarily mean that the thing was settled one way or the other. So far as they had been adjusted between the company and the Government, I had the complete information as far as the figures were concerned.

My Exhibit X-79 was prepared probably the latter part of February. It was one of the last exhibits. That exhibit was based exclusively on certain information that had
5467 been furnished me by the Western, consisting of monthly report No. 1, and an analysis of principal items appearing on the Products Company No. 1 report for the years 1927 and 1931, which had been furnished by the Western to the defendants in this case, and which have been identified in this case as Exhibits D-74 and D-75.

(The document was marked Exhibit A-230.)

I believe that the information contained in Plaintiff's Exhibit A-230 is the sole information used by me in the preparation of Defendants' Exhibit X-79, except so far as it affects the earnings of subsidiary companies, which I obtained from another source.

5468 (Counsel reads from previous cross-examination of witness, as follows:)

"Question: Now, it is a fact, Mr. McCann, isn't it, that you know an examination of these records that the Electrical Research Products was largely financed by means of loans made by the Western Electric Company to Electrical Research Products rather than stock issued by the Electrical Research Products itself or by a bond issue?

Answer: I do not know that that is a fact. I never studied that phase of the situation."

I remember my testimony in that connection.

(A document was marked Exhibit A-231.)

Exhibit A-231, which is a statement of loans by the Western Electric Company, Inc., to the Electrical Research
5469 Products, Inc., was furnished to me in response to a direct request by me in my letter of January 12, 1932. I did not study the information that was given me. I never used this particular statement. I was requested by counsel to obtain the information. I never used this.

In Exhibit X-79, I gave no effect to the fact that Electrical Research Products was financed by loans made by Western Electric Company. I had before me long prior to the time that I prepared X-79, information furnished by the Western Electric Company concerning that matter. If I had wanted it, I had it.

I had no desire to ascertain, in the preparation of
5470 X-79, whether the Electrical Research Products was in fact largely financed through loans made to it by the Western.

(Documents were marked Exhibits A-232 and 233.)

I made some statement about the American Telephone & Telegraph Company having denied me information with respect to the amount of stock and the cost of that stock held by it in the Western Electric Company for 1915 and prior years. I would not be absolutely certain whether or not the information in Exhibit A-232 and Exhibit A-233, the
5471 first bearing the legend, D-76, and the second D-77, was furnished by the Western Electric Company to the City of Chicago. It was not furnished to me. I believe I saw this one marked A-233 before, but I am not certain about this one marked A-232.

Mr. Whitworth has been in charge of this investigation for Touche, Niven & Company. He is a member of the firm of Touche, Niven & Co. I report to him.

(Counsel reads from Mr. Whitworth's testimony regarding Exhibit X-79 as follows:)

5472 Question by Judge Wilkerson: "You knew you were to be asked to adopt these percentages as indicating the return of the Eletcrical Research Products. Now, just what

is your practice, your general practice, where you are confronted with a situation of that kind, and you were denied access to some essential document or some essential book? Is it your practice to make up the papers from those to which you have access and send them in, or is it your practice to advise the court that you have not the necessary papers upon which to make an estimate?

The Witness: It is generally necessary to advise the court that we have not the necessary facts.

Judge Wilkerson: So you had everything which in your opinion you thought was necessary to the ascertainment of those percentages, or you would have told the court you did not have the documents or the books from which to make that estimate?

5473 The Witness: Yes, sir."

I agree with the answers of Mr. Whitworth.

Redirect Examination by Mr. Haight.

During my cross-examination, my attention was called to the copy of letter addressed to Touche, Niven & Company by Mr. Heiss, comptroller of the American Telephone & Telegraph Company, under date of February 8, 1932. I
5474 believe I received written instructions from Mr. Goldstein, asking me to obtain that information. I believe they were written instructions. I was in New York when I received the request from Mr. Goldstein. Mr. Goldstein was in Chicago. I had no knowledge of what it was all about. All I did was to carry out the suggestions and made the request.

Referring to a letter of February 15, 1932, the last one in the series produced by me, I was asked on cross-examination if the only complaints I had regarding the delays
5475 were those listed in the footnote upon that letter. There were other delays.

(Objection on ground that on cross-examination witness said he was not complaining of other delays. Objection overruled.)

5476 I have made a list of other delays. I listed them
5477 upon this document, Defendant's Exhibit X-312, entitled "Statement on Delays."

(Same objection as above.)

5478 All of these alleged delays are with reference to something I finally got.

5479 (Defendants' Exhibit X-312, marked for identification.)

The delays that I have listed in this document, Defendants' Exhibit X-312 for identification correctly sets forth the details respecting them. When I say I did not get the data, or the information listed, I mean it was not given to me promptly.

5482 I was asked on cross-examination something about the photostatic copies of the income tax return. I also had showings of the final statements from 1918 to 1923.

5483 From the correspondence with the Internal Revenue Department, that we were discussing the other day, I would expect to learn the following:

The first thing that I find out from the correspondence and finding is the basis of the final statement that would give me a clue as to the manner in which the items had been treated by the corporation and the manner in which they had been finally disposed of by the Internal Revenue Department. This information would have been useful in determining whether the tax returns for the years 1924 to 1930 gave effect to these final adjustments made by the Internal Revenue Department, or whether the tax returns had been left as they were originally prepared. The final settlement was up to and including 1923. With regard to making a certificate

5484 respecting any of the things that I investigated, we have not, in respect to any of them, made what I, as an accountant, would call an audit. We do not give certificates short of audits.

(Counsel reads from the deposition of John E. Otterson on cross-examination as follows:)

"Question: Have the books and records of the Electrical Research Products been audited?

Answer: Yes.

Question: By whom?

Answer: Arthur Young & Company.

Question: Are there copies of that audit in the possession of the Electrical Research Products?

Answer: Yes.

Question: And have those audits been made for
5485 each year, 1927, 1928, 1929, 1930 and 1931?

Answer: For all but 1931. Their auditors are currently and constantly in touch with our accounting department."

And then by Mr. Goldstein:

"Question: Mr. Otterson, to avoid asking you to produce detailed statements covering those various transactions, both as to income and expenses, we would like to have you produce the audits of Arthur Young & Company covering the years 1927 to 1930, inclusive."

By Mr. Thompson:

"We will take that request under advisement.. I do not presently see any objection to your having them, but we will let you know definitely a little later."

"Mr. Haight: That was upon the 16th of January, 1932. Anyhow, afterwards, after we had left New York and had gone home, we were advised, as I understand by Mr. Bracelen, counsel for the A. T. & T., that there were no such audits, but there were statements verifying the investment; merely a verification of the Western Electric Company
5486 investment, as I understand it.

Mr. Thompson: There was a certificate to the balance sheet. Are you talking about the Products Company?

Mr. Goldstein: Yes, we are talking about Mr. Otterson's statement under oath that there was a complete audit—there was an audit for that year, for each year; and on the basis of that we asked no further questions about the deferred receivables: He said an audit for each year, and his statement is under oath, and it is the same oath under which he made the other statement.

Mr. Thompson: We will debate that.

Mr. Goldstein: Yes. And would you also read that statement of Mr. Adcock where we called their attention to it in open court, at the deposition. Mr. Adcock made a statement that ought to be in the record.

Mr. Haight: And also on page 791 of the deposition, by Mr. Adcock:

'At the end of Mr. Otterson's redirect examination, we requested the audits of Arthur Young & Company of ERPI which Mr. Otterson testified had been made by Arthur Young & Company and I think the letter of Mr. Bracelen of

5487 January 19th, states, as a matter of fact, that there were no audits made and that request—

Mr. Bracelen: Did I say that?

Mr. Adcock: There were no reports made, yes, no reports made, and we wanted the audits made at that time, as stated by the record, in order to save time, and for that reason we probably want to recall Mr. Otterson to ask some questions about that situation, not particularly about the audits, but with reference to the subject matter that will be covered by the audits.'

And then there is a considerable wrangle that I will not stop to read. It will be all in the depositions.''.

5488 *Re-cross Examination by Mr. Thompson.*

After I had left the witness stand on Saturday, I had a conversation with Mr. Gregory here in the courtroom. I didn't tell him that Touche, Niven & Co. felt that they had wonderful cooperation from the Western in their work. I do not recall what I said. I didn't say that we had fine cooperation.

As to this first alleged delay, I stated "under date of December 29, 1931, we requested the analysis of 1925 cost of sales and supporting details." This information was furnished us under date of January 8, 1932. What I did in this request on December 29, 1931, was to ask for the 1930

5489 and the 1925 analyses of cost of sales. On the same date, that I requested the two, the 1925 and the 1930 cost of sales, the Western Electric Company delivered to me the 1930 costs of sales. They were parts of the same request but were separated by your representative of the Western Electric. The fact is on the day when I asked for the 1925 and the 1930 analyses of cost of sales, the 1930 analysis of cost of sales was delivered to me, and I was advised by the Western Electric Company that their men were engaged in working on the 1925 cost of sales analysis. I believe it is correct that they said that as soon as that work was

5490 finished, the other would be delivered to me. They told me they were working on it, or finishing it. As to whether I objected to it or protested against it, why should I protest. I merely asked for it. The first thing that I list here on this, were statements that had been prepared by Mr. Gregory, contained in folders perhaps an inch or an inch and a half thick. I don't know whether the 1930 analysis

of cost of sales which I had, showed the exact manner
5491 and method that Mr. Gregory had followed in both studies.

"Q. Now, Mr. McCann, tell me one place in any exhibit in this case where you have used one thing that was taken from either one of these analyses of cost of sales, 1925 and 1930.

A. Well, I think the cost of sales of 1925 and 1930 enters into every exhibit where these particular years are involved.

Q. All right.

A. Whether I used the figures or not.

Q. Tell me what part of that analysis of cost of sales entered into it, or whether you used that in the preparation of these exhibits.

A. Whether I used it or not, I do not think enters into the question. It enters into the profits, and I did use your profits as a beginning point.

Q. I understand. I am asking you the direct question, whether you used anything—whether you used in any of the work that you did in this case the information contained in these folders, as there contained.

A. I believe I did.

Q. In what exhibit and how?

5492 A. In practically every exhibit as to the Western.

Q. I want your working papers this afternoon, and I want you to point out on those working papers any place where you used any information that was contained in the 1925 and 1930 analyses of cost of sales that was not available to you in the binders that you inspected. I would like to have a written statement on that.

Mr. Haight: All right."

When I made a joint request for two folders containing the analysis of cost of sales for 1925 and 1930 on December 29th, and I come into this court with the statement which showed that I was denied one, I do not see that it is necessary to make a statement about the other having been furnished to us on the date the request was made.

5493 W. M. HAMMOND, a witness on behalf of defendants, having been previously duly sworn, resumed the stand and further testified as follows:

Cross-Examination by Mr. Blackman.

(June 20, 1932.)

Throughout my exhibits I used the bond rating, such as triple A, double A, single A, BA and BAA, and so on.
5494 These ratings and the data that I testified about were taken from Moody's, principally. I do not know what considerations underlie any particular rating which Moody gave to any of the bonds that I use in my tabulation. If I understand your question rightly, I do not know all of the considerations, and I am not conversant with the weight given by Moody to different elements or all of the elements that are considered. As to whether it is necessary to know that in order to make the proper comparison, I say I have not drawn comparisons as to any particular companies.
5495 I followed the thoughts somewhat that Mr. Hoyt has expressed in this record, that they are generally recognized in the financial world and by many investors and by banking institutions as indicative of the investment value or quality of bonds. I have compared triple A bonds of the Bell System, as you designate them, with triple A bonds of railroads, and triple A bonds of industries and triple A bonds of other utilities. I have set them up in parallel columns
5496 according to the ratings which are found in the manuals and have not attempted to draw any conclusions of my own as to the elements of comparability between the different classes. I would say that there are probably other elements than that of safety that are involved in Moody's ratings. I do not know what those elements are. You would have to examine the history and status of each company in order to make a statement in that regard.

As to my understanding of the requirements necessary for a bond to be rated as triple A by Poor or Moody,
5497 I have made no specific study as to the bases on which the ratings are assigned. I know that in the financial market they are rated as the highest-grade bonds. If the

assets of a company were two or three or four times the amount of the principal of the bonds in question, and of bonds ahead of them, if there were any ahead of them, I would say those were high-grade bonds, but I would
5498 not attempt to draw a distinct line between the said statistical factors; there are other factors than those, that can be expressed statistically that may enter into the salability and consequently the rating on the bonds. Moody does rate many bonds as triple A.

5499 I have expressed nothing in my report indicative of a conclusion as to whether triple A bonds are all equally well secured or equally well thought of, or a conclusion of that kind. If you took a bond that is earning its interest charges four or five times over; the company is a prosperous one; well managed, growing; its assets are three or four times the amount of the bonds; and the bond is a first mortgage bond—in that case I would expect to find
5500 that bond given a high rating. I would not draw a conclusion based on the data which you have given me as to whether it might be a triple A or a double A. Assuming that it is a triple A, other factors being equal, another bond that was paying its interest rate eight times over, and secured by property that was eight times the amount of the face of the bond, would have somewhat better quality. There is no exact statistical data that can be used, to my knowledge, to define clearly the distinction between triple A and the next grade below. If a bond were earning its interest charges six or seven times over, and the company was
5501 a good company, and a growing company, if you ignore all other elements, I could give no opinion then,—without considering something more than one element. Ordinarily the asset position, or equity, has a bearing upon the values. If it has one added factor—that is it has assets, of five times the face of the bonds, the bond is a first-mortgage bond, that is, the assets are four or five times and the interest charges are five or six—I would expect to find
5502 that bond rated among the highest grades. It probably would be triple A, but there are other factors which might have a bearing on it. It might fall into the next grade, which comes very close to the triple A, in general quality.

5503 I would say that cases where I have passed upon

the issue of bonds the records of the company showed that the bond interest was being earned, or would be earned six or seven times over, are not particularly frequent. I don't recall any at this time. The Commerce Commission records may disclose many, but I don't recall any particular case at this moment.

Regarding the security issues that I have passed on, the general average of the bond interest earned would fall between one and three-quarters times, and three times, or thereabouts, some higher and some lower. Those are
5504 not merely the upper and lower limits, necessarily.

I wouldn't want to say without further study that a great many bonds do rate as triple-A that are not earning their interest charges more than three times over. A bond earning its interest four times, with other factors strong, probably would fall in the higher grade of ratings, Triple-A, or a grade nearer, Double A. I summarize on my Exhibits X-227, X-228 and X-229, a good many hundred of pages of sheets which I submitted to you, showing the bond averages and prices and yields; and things of that kind.

5505 On these three sheets, I set up in a form in which they could be compared, and make comparison between the yields, as I have termed them, of the Bell System bonds, and bonds of railroads and public utilities. The purpose of putting them there was for comparison and for the purpose of showing the levels as between the different groups.

On Exhibit 229, Bell System bonds, railroad bonds, and public utility bonds are set up in parallel columns.

I would not care to make a general statement as to which bonds show the better yields without adhering pretty closely to the figures.

5506 The way I set up these parallel columns here shows that the yield on the Bell System bonds was better
5507 than on the public utility bonds in each of the years 1921-1931 in which I make comparison, except the two years of 1929 and 1930. In the comparison which I make with the railroads, the railroads got better yields in 1923, '24, '25, '29 and '30. In the other years where that comparison is made, I show that the Bell System got better yields as compared with the railroads. The comparison that we have been talking about is the comparison based on the

cost to the company, referring to the three columns headed "Cost to the Company."

5508 "The next comparison I make is made in three parallel columns immediately to the right of those we have been discussing and are under the heading "Yield to the Public." In that comparison, I show that the Bell System bonds were on a lower yield basis, and, therefore, had a better sale than the utility bonds in every year except '21 and '30. If by "better yield" it is meant that the companies were able to sell the bonds at better prices than railroad bonds, so that the charges were less, then that is another question. Then, the answer is, in 1921 the Bell System yield was under the yield of the railroads; in 1922 it was under; it was higher in 1923; it was higher in 1924; it was lower in 1925; it was lower in 1926; in 1927 and '28

5509 there were no Bell issues; in 1929, the Bell was under the railroad yield; in 1930 it was higher than the railroad yield; and in 1931 there were no Bell issues.

In my last comparison, the three figures to the extreme right of the sheet, I compare the spread between cost to the company and average yield to the public. That is taken up principally by the Banker's Commission. In that comparison, it is not correct that the Bell System bonds were less than the Public Utility bonds in every year. In the year 1929, the Bell System is higher than the Public Utilities spread—that is, 33 against 25. In every other year, the Bell System spread is less than the Utilities. With re-

5510 gard to the railroads, the Bell System spread is less in some years, and higher in others.

The same identical figures that appear on Exhibit X-229 also appear on Exhibit X-235; the figures are drawn from the same sources. They appear opposite the line "Average." Taking the year 1929 as an example, in that year the Bell System issued only triple A bonds, and the yield that I have set down for those triple A bonds is 5.33. The yield that I set down for triple A railroad bonds is 4.82, and the yield that I set down for public utility bonds of triple A grade is 4.93. On my summary sheet here, where I

5511 make the comparison, I show that for that year, the average comparison is 5.33 for the Bell System, 5.27 for the railroads, and 5.29 for the Utilities. The figures that I use on X-229, for 1929, in the first column oppo-

5512 site the year 1929, and under the heading "Bell System" is 5.33; and in the same line, under "Railroads" is 5.27; and in the same line, under "Utilities" is 5.29.

In Exhibit X-229 for the Bell System for 1929, the yield is 5.33, and in Exhibit X-235, it is the same; for railroads, on Exhibit X-229, 5.27 for 1929; and the same figure on Exhibit X-235; and in X-229, for utilities, for 1929, 5.29, and the same figure on X-235.

5513 I have used the yields, in order to determine the comparison between the railroad bonds and the public utility bonds on the one hand, and the Bell System bonds on the other. I have used only triple A bonds of the Bell System, and I have used as low as BAA grade of railroad bonds. Every grade that was reported is included. In the year 1930, I have used five grades of railroad bonds, and four grades of public utilities, to compare with the one triple A grade of Bell System bonds. They represent the entire financing of each class of business for those years.

5514 I would not follow and I think I have not used the following system:

To compare the goods of Marshall Field with the goods of Carson, Pirie, find that the highest grade stuff in Marshall Field's was rated, at $5, and the highest grade stuff at Carson-Pirie's was rated at $5, and lower grades at Carson-Pirie's at $3, and $2, and even $1, and then add up the Carson-Pirie stuff and find that the average was $2, and say that Marshall Field's prices were two and a half times those of Carson-Pirie.

The difference between that example and what I have done is as follows: This is the weighted average of all of the issues based on the volume of the respective classes, and represents the entire cost for each class of industry for the years that it purports to. It does not necessarily imply that because they are set down side by side, that I mean to infer that each has identical values. They may be

5515 compared, I believe, without attributing identical values. My purpose in X-229 was not to draw conclusions as to whether or not the Bell System bonds were getting a better yield or were selling on a better yield basis or had a better market than the railroads or public utilities; but to present the facts that might be helpful in reach-

ing a conclusion. I cannot answer yes or no whether in the summary sheet X-229, I intended the court to understand, and make a finding that the Bell System bonds commanded a better yield, or at least commanded a better price, were sold on a lower yield basis than the utility bonds. The word "intent" there is confusing to me. There was
5516 not a purpose or intent, except to present all of the facts, classify these bonds, on the only basis I was aware of, and that is, that which is generally recognized in the investment world as of some value. Beyond that, I have not attempted to express, or attempted to draw a comparison between any particular issues or class of issues.

The triple A bonds of the Bell System are compared with the triple A bonds of the railroads, and the triple A bonds of the utilities in this Exhibit X-235. The exhibits are set up so that if you wish to compare triple A bonds with triple A bonds, you have the figures. I have reached the conclusion that triple A bonds may be compared with triple A bonds. I am not undertaking to say which method shall be adopted. That is for counsel to argue. I cannot say
5517 whether, if I had compared the triple A bonds of the Bell System with the triple A bonds of the two other classes, and had used that comparison on X-229, I would have shown just the opposite of what I show here, and would have shown that the Bell System bonds did not command as good a market price in relation to the interest, and that the yield in order to sell the bond, had to be
5518 higher. I would not try to answer that yes or no without reading the figures. I will make up a table and add up the yields of the various years of the triple A Bell bonds, the triple A railroad bonds, and the triple A utility bonds, and tell what the comparison is.

5520 Graphic chart X-227 is X-229 reduced to chart form. That is plainly shown on the face of the exhibit, I believe, or in the testimony. Exhibit X-228 is likewise produced from X-229, based on the figures. The charts are in-
5521 tended to be a faithful reproduction of the figures on the same basis that 229 is built up. The comparison shown graphically on the chart is a comparison of triple A Bell bonds with bonds of other companies, including B's, BA's and BAA's.

As I recall, an issue of $219,000,000 of Bell System bonds issued in 1929, I believe, was the only convertible issue
5522 of the Bell System included in these exhibits. I don't recall including any convertible bonds of the underlying companies of the Bell System. The conversion privilege of the American Telephone & Telegraph issue was a conversion into common stock of the company. I cannot state from memory the exact terms of the conversion.

The convertible privilege has a bearing on the selling cost of the convertible bond. Convertible bonds were excluded from Exhibit X-229, both Bell System and railroads, but they were included in some exhibits set up in parallel columns showing those that are convertible, and those that are not.

5523 I would have to read to you the issues to give you a full answer as to what extent the railroad bonds were convertible. I have a list of them. I haven't the exact figure as to approximately how many were convertible without looking at my papers. I have not reproduced in these exhibits the terms of the convertible features. I examined them, but I did not reproduce them in this exhibit: I don't recall,—there was a long list of them, and I naturally did not attempt to memorize them.

5524 I have produced figures here on the subject of the yields on bonds as compared with the yields on stock, and the yields on one stock as compared to the yield on another stock. I am referring to Exhibit X-250 and subsequent exhibits. In all of those cases I used merely the dividends that the companies were paying. I have so stated on direct examination. In no case did I take into account, or give any weight to the earnings of the company. We would not know from my figures, and my figures would not be changed, if two companies were each paying 8 per cent, whether one of those companies was earning 6 per cent, and paying the additional 2 per cent out of accumulated reserve, or whether it was making 28 per cent and setting aside $20 to surplus, and paying $8 in dividends. I took into account only cash dividends. I am not saying that the com-
5525 panies are comparable.

I have shown a comparison of the yields on the common stocks at the market prices prevailing in each year,

based on the cash dividends, and for that purpose have grouped together the common stocks of all the utilities that had issued bonds of the different grades; I have also shown the average on the same chart, Exhibit X-250, of all of them combined, and then they are broken down into the Moody's ratings groups.

The only factors that I considered in making the comparisons that I speak of were market prices of the securities and the dividends paid by the companies. I paid no attention to what the companies were earning, and that factor did not enter into my calculations at all. I made my selections
5526 of these stocks for comparative purposes by taking the base on which their bonds were selling, where they have been divided into investment groups. The market price of the bonds had nothing to do with the calculation.

A study was made of the common stocks that had an open market, in other words, that were traded in on the public markets; the prices were recorded; the average yield based on dividends being paid were computed. They were grouped where they are grouped in this statement, by taking the companies that had triple A bonds and setting up in a group corresponding, so to speak, the stocks of those same
5527 companies, in so far as there was a public market for the stocks. I used the bond basis as the test for determining the comparison of stocks.

Redirect Examination by Mr. Goldstein.

Referring to Mr. Crunden's testimony in 1929, in connection with which he offered plaintiff's Exhibit 16, appearing in record volume 4, pages 1276-1277, entitled "List of Bonds and Notes of Public Utility Companies Sold in the Open Market during the year 1923. List Includes Only Issues of $5,000,000 and Over," that list contains the identical bonds that I have, only without groupings, and includes bonds whose yields on offering price were in some cases as low as
5½ per cent, and in other cases as high as 7 per
5528 cent.

What I did was to take the same bonds and reclassify those bonds according to the classification which Mr. Hoyt gave in connection with his testimony that "in connection

with the various classes of securities, investors have come to think of bonds in a certain classification, bonds legal for savings bank, and bonds not legal, they have also come to think of the classifications in the terms of which some of the established services have rated them, that is, A-1 bonds or triple A bonds; many investors have in mind those ratings in connection with the type of securities purchased." I applied Mr. Hoyt's tests, to subdivide all of the bonds that Mr. Crunden used in his exhibit, Plaintiff's Exhibit 16.

5531 My exhibits show the yields according to the classifications as stated by Mr. Hoyt (Abst. 188) as follows: "Many investors have in mind those ratings in connection with the type of securities purchased." My exhibits show the cost to the company on the basis of those classifications, and show all of the information, wherever I have used

5532 classifications here, on the basis of the classifications as stated by Mr. Hoyt in his testimony.

Re-cross Examination by Mr. Blackman.

As to where my graphs show the information on the basis just stated, I refer to Exhibit X-236 where you find

5533 the yields shown according to each rating classification. X-227 does not attempt to classify the bonds according to ratings. That is the average for the industry. My other summary X-228, as I have already stated, deals only with the totals, and does not deal with the ratings. My other summary, sheet X-229 included only the general average of all of them. I did not understand the question, of Mr. Goldstein to refer to every exhibit as showing a classification on the basis of Mr. Hoyt's classification, but I understood it to be directed to the point as to whether the exhibits submitted by me were grouped according to that principle.

5534 The fact is, the comparison that Mr. Goldstein referred to as having been stated by Mr. Hoyt is nowhere brought out in any of my summary exhibits. It is only on the underlying exhibit where it can be found.

In stating that I had merely followed the table that Mr. Crunden had put in in this case, I refer to the table that appears at pages 1276 and 1277 of the record of the previous trial. In that table there is no comparison of Bell Bonds

with railroad bonds or any other bonds. They are all thrown together into one group there. That is, they are just
5535 a list here of a number of issues of bonds.

I didn't state that I had followed his group to the extent of a classification. I knew well that he did not classify them, and I attempted to carry it one step further. While I was familiar with what Mr. Crunden did in this case, I can't say that it determined the manner in which I proceeded to prepare the data.

K. E. THOLIN, having been previously duly sworn, resumed the stand for cross-examination by Mr. Bracelen and testified as follows:

Cross-Examination by Mr. Bracelen.

(June 20, 1932.)

5537 "Q. Mr. Tholin, the first part of your testimony that I wish to inquire about relates to Mr. Turner's method of finding the over-all average service life of station apparatus, and in that connection, to the use of junk salvage in making the computation, you will recall this question and answer on your direct examination. Your counsel asked you this question:

'If 2 per cent were used in the formula instead of 5 per cent, would the effect be to increase or decrease the over-all life?'

To which you answered:

'A. The effect would be to increase the over-all life, and this would also involve more re-uses of the equipment.'

Do you recall that testimony?

A. I do, yes, sir."

I recall some other testimony that I gave in con-
5538 nection with that subject. I was referring to the over-all life of the class of property known as station equipment, station apparatus. The 2 per cent and the 5 per cent referred to in the question and answer related to junk salvage. A little earlier than that, in my testimony, I had stated that a certain tabulation had been given to me by Mr. Cox of Mr. Turner's office. The calculations are those shown in Exhibits X-190 and X-191. Exhibit X-191 is the one pur-

porting to deal with junk salvage of 2 per cent or thereabouts.

I said that data was given me covering three types
5539 of stations and those are shown on Exhibit X-191, first, manual non-coin-box desk set, shows a junk salvage value of 2 per cent, and second, coin box, which shows a junk salvage of 1.6 per cent, and third, dial non-coin-box desk set, which shows a junk salvage of 2 per cent.

Exhibit X-190 related to salvage recoverable upon dismantlement of the sets. By "station apparatus," which we are talking about now, is meant in general the equipment that is on the subscriber's premises, part of the equipment on the subscriber's premises. It is what the subscriber is likely to think of as his telephone and attendant apparatus.

By "over-all life," which is the subject we are talking about, is meant the life from the time the telephone goes into service until it is finally retired from service, and junked.

5540 By "junk salvage" is meant that which the company recovers at the time of the final retirement of that equipment. If you have a telephone that cost the company ten dollars, when it goes into service, and from which a salvage of 5 per cent is recovered when it is finally retired from service, the company gets 50 cents back out of the $10; and if it is 2 per cent, junk salvage, the company gets back 20 cents out of the $10.

Referring to my statement that if Mr. Turner had used 2 per cent in the formula instead of 5 per cent, you would have gotten a longer over-all life and more re-uses of the equipment, I have made a brief study to determine how much longer life.

5541 I made one calculation to determine how much of an increase in the over-all life would have resulted if 2 per cent had been used instead of 5 per cent. I am not sure that I have that calculation with me.

Mr. Turner's over-all study applying the formula
5542 using 5 per cent showed an over-all life of 17.8 years.

The substitution of 2 per cent in place of the 5 per cent junk salvage in the formula will not give 18 years, a difference of .2 year.

I arrived at an approximation in the neighborhood
5543 of 21 years. I have my working papers here. The

work sheet is identified as Plaintiff's Exhibit A-234. In Exhibit X-190 the salvage percentages upon dismantlement are the percentage figures shown in the right-hand column of the sheet for each of the three classes of station apparatus designated there. I tried to ascertain whether salvage recoverable upon dismantlement did or did not enter
5544 into the company's determination of 5 per cent junk salvage, and I was not able to. The company was not able to produce any proof that it considered it. It may enter into it in their minds, I don't know. When I got these two sheets, X-190 and X-191, from Mr. Cox I did not ask him about whether he included consideration of the dismantled equipment, but when I inquired about proof for the 5 per cent used as junk, Mr. Cox did explain that the 5 per cent junk salvage used by the company, instead of the 2 per cent had been arrived at by taking into account an allowance for the station apparatus that was dismantled and the salvage recovered from dismantling it.

After I stated that in substance on direct examination, I was asked this question by Mr. Goldstein: "Q. Was
5545 the company's calculation of the salvage where parts are re-usable based on the same basis as in connection with the ultimate junk salvage?" I answered, "The same general method was used, yes." That is true, as to the determination of that per cent.

Exhibit X-190, showing the maximum salvage of dismantled station apparatus is probably designed to show, and does show, what the maximum possible salvage recovery upon dismantlement would be, if every component part of the particular piece of apparatus were found to be re-usable.

5546 "Q. Now, the point I am getting to, of course, is this: That is the dismantlement process, or as the result of the dismantlement of station apparatus, the salvage is never of a complete piece of apparatus and all its component parts, but there will be a particular component part in this set that is dismantled, maybe one or more; in another set there will be some other component part that is found to be reusable and is salvaged, and this Exhibit 190 merely reassembles all the salvaged component parts so as to make up as many complete instruments as those component parts would make up, that is, the whole idea of the exhibit?

A. That sounds rather complicated to me. I thought it was as you stated first, that it is the maximum salvage that can be obtained from a station if all of the component parts were salvaged."

5547 Whether I would expect to find instruments being dismantled if all of the parts were recoverable depends on the meaning of the word "dismantled." I have not made any particular use of the word "dismantled" because I felt that we were now trying to arrive at the ultimate junk salvage, and not some in-between salvage, because we have a variation from pretty near a brand-new instrument coming through the storeroom, and being polished up a little, possibly the finish might be said to be junk, and it might be called a dismantled instrument.

But somewhere in between there are lots of different variations. I thought we were concerned with the ultimate junk, and, therefore, I paid very little—practically no at-

5548 tention to this statement of the in-between dismantled situation. When I answered Mr. Goldstein that if 2 per cent were used in the formula instead of 5 per cent to arrive at the over-all life, I was not suggesting and did not mean to have the court infer that I thought 2 per cent should be used, and that that really is as much junk salvage as the company recovered. The company has no proof of wha junk salvage they received.

5549 In Exhibit X-183, dealing with accruals of depreciation on station apparatus, column 4, headed "Estimated investment loss to be provided for through charges to depreciation," is about 30 or 35 per cent of column 2, which is headed "Investment at the end of the year." It is the difference between the company's salvage per cent in that particular year and 100 per cent.

I can easily give you the particular figure. For 1920 it is 40 per cent, the company in that year used 60 per cen salvage. So that column 4 for 1920 represents 40 per cen of the investment at the end of the year 1920. For the years 1921, '22 and '23, column 4 is 35 per cent of the investment for each of those years, and for the years 1924 and all succeeding years, including 1931, the column 4 is 30 per cent of the company's investment shown in column 2.

5550 The last figure in the final column, column 10, for the year 1931, is 118.04 per cent. That means that the

amount shown in column 9 is 118 per cent of the last figure in column 4, $4,976,734. That figure in column 4 is 30 per cent of the company's investment in station apparatus in that year shown in column 2 of $16,589,115, so that the 118.04 per cent in relation to the company's investment in station apparatus in 1931 shown in the first column is 118 per cent of 30 per cent. So that the company has, at the end of the year 1931, in its depreciation reserve, according to my exhibit, 118 per cent of 30 per cent, or 35.4 per cent of
5551 its investment in station apparatus.

My exhibit is based upon the proposition that the company is to provide, through its depreciation charges on account of this investment of sixteen and a half millions since 1931, only $4,976,000 odd. When this investment of sixteen odd million dollars that the company has in 1931, the station apparatus represented by that amount of money which is the cost to the company as shown on its books, is finally retired from service, the company will get back,
5552 according to its calculations, 5 per cent salvage and 95 per cent loss, and if 2 per cent junk salvage is used it will get back 2 per cent salvage and 98 per cent investment loss.

5553 They say everything is headed for the junk pile, and I presume the station apparatus some day will be junked, and not much value recovered. When this type of equipment, station apparatus, is finally retired from service at the end of its over-all life, and not re-used, the salvage which the company recovers is what is known as junk salvage. This investment of sixteen million five hundred odd thousand dollars which the company has, representing the cost, on its books, of the instruments in station apparatus, in 1931, will finally go out of service and be junked, and such salvage as there is there will be recovered.

5554 Just for illustration, if the sixteen million dollars of investment in the station apparatus represents a million stations at an average cost to the company of $16, then as a physical fact those one million of physical instruments some day will go to the junk pile.

If you refer only to salvage when they do go to the junk pile, the company will have left, or restored to it out of that sixteen million dollars, whatever it has been able to recover as junk salvage.

Referring to the amount that the company is going to get back as salvage, leaving the rest of it as loss to the company, when those instruments are finally retired, if the salvage is
5 per cent, the company will lose 95 per cent of sixteen
5555 million dollars.

I am a public official. This exhibit has been worked out together between myself and counsel. It is the joint idea of myself and counsel. If there is anything wrong with
5556 the exhibit I would like to straighten it out.

"Q. I have no doubt of that. Well, now, Mr. Tholin, don't you see that the company has to get back, through its depreciation charges, an investment loss which is the difference between the sixteen million five hundred thousand dollars and the junk salvage that it recovers, and that the investment loss, instead of being only 30 per cent of the investment in 1931, is 95 per cent if the 5 per cent junk salvage of the company's computation is correct?

A. I will agree with you that the company should be reimbursed for the difference between the original cost and that junk salvage that you speak of. But in preparing this exhibit, we had no evidence of what your junk salvage was. The only evidence we had was the depreciation rate charged by the company, which is based on that 70 per cent salvage."

5557 The estimated investment loss should be the difference between the investment shown in column 2, the company's investment, and whatever junk salvage it recovers.

The company has recovered to date, through its depreciation charges on account of this investment of $16,500,000 in 1931, only $5,874,000, the last figure at the bottom of column 9. I explained, however, that I had not included any balance of the 1913 balance in the reserve.

According to my exhibit, the company would recover, through its charges for depreciation down to the end of the year 1931, the sum of $5,874,679 on account of the investment of $16,500,000 shown in the investment column, column 2 of my exhibit.

(June 21, 1932.)

5562 Exhibit X-185 is a comparative study of per cent condition of Manual Central Office Equipment.

5563 As to my connection with this exhibit, the answer is that all of my exhibits have been worked out under advice of counsel, and I have discussed them with counsel, and it is counsel's idea that these exhibits should be introduced. Counsel contributed the law, and I contributed the accounting. I did the computing. That is all I did.

5564 I think counsel can better answer the purpose of Exhibit X-185 than I can. For the purpose of cross-examination I number the columns in Exhibit X-185, No. 1 to No. 9.

Column 1 of Exhibit X-185 is identical with column A of Table 6 of Mr. Turner's Exhibit A-128.

5565 Column 3 of Exhibit X-185 is column B of Table 6 in Exhibit A-128. Column 4 of Exhibit X-185, "Estimated Year of Retirement", is identical with column C of Table 6 in A-128. Column 5 of X-185, headed "Age at December 31, 1930," corresponds to column E of Table 6 of A-128, which Mr. Turner calls "Average Realized Life at December 31, 1929," and the only difference between the two columns is that my study brings the computation down one year later, based on the actual book figures rather than the 1930 estimated figures of Mr. Turner.

Column 6 of X-185, headed "Estimated Total Life," corresponds to column 1 of Table 6 of A-128, which Mr. Turner calls "Estimated Average Realized Life at Retirement."

5566 The difference in the two columns last mentioned would not be in the fact that there is an additional year in there, but the difference would be because the figures I have used for that year are the actual figures as compared with the estimated figures of Mr. Turner, because in Mr. Turner's figures shown in Column I, he, of course takes in all of the property, not only to the end of 1929, but to the retirement dates as shown in Column C, and I have done likewise, except that I have used the actual figures for 1930. That is the explanation for the fact that, for example, the first figure in Column 6, for the Austin office, 10.45 years, is different from Mr. Turner's figure of 10.52.

Column 9, the last column on my exhibit, X-185, "Per Cent Condition Determined by the Company," I obtained from Mr. Redmund's detail papers, as to per cent condition
5567 at each of the offices, and I think they agree with what Mr. Redmund testified to in the record.

The method by which I get the figures in Column 6, which I call "Estimated Total Life," is the same as the method used by Mr. Turner in getting the figures in Column I of Table 6. To illustrate that by a simple example, the method is this: An office is initially installed with, say an investment of $10,000 at the start, and let us assume that the office is to retire in any period of years you please, but, for example, we will say 10 years. You multiply 10 years by $10,000, and get one hundred thousand dollars years. Then say after the office has been in service five years there is an addition to it of $10,000, which addition therefore will be in service five years, giving 50,000 dollar-years, or a total of 150,000 dollar years, which divided by the $20,000 of investment gives an average estimated total life of 7.5 years. That is the process which both I and Mr. Turner have employed in
5568 getting Column 6 of X-185 and Mr. Turner's Column I in A-128.

In order to get the figures in my Column 5, which corresponds to Mr. Turner's Column E, which I call "Age at December 31, 1930," I employ the same mathematical process, exactly; that is to say, I get the dollar-years of the investment that has already been made, and multiply each item of that investment by the actual number of years which that investment has been in service, down to the time of my computation, and then divide that number of dollar-years by the total number of dollars of investment.

The figures in Column 7 of my table, "Per Cent of Total Life Remaining at December 31, 1930," are obtained by dividing the difference between Column 6 and Column 5, by Column 6. That is to say, taking the case of the Austin Office, I have 10.45 years which I call "Estimated Total Life."
5569 From that I subtract the 6.97 years of Column 5, which is the age at December 31, 1930, and that difference is then stated in Column 7 as a percentage of estimated total life, of 10.45 years. Column 8 is Column 7 after the salvage adjustment is made. I would not say that I have in this ex-

hibit the application of a mathematical procedure or formula by which one may sit in his office and with the figures determine what I call the per cent condition of the physical property of the Telephone Company here in Chicago, to be compared with the per cent condition of the same property as found by experienced telephone engineers and maintenance men upon a careful inspection of the actual physical things. It purports to be a ratio of the life that has gone, to the total life, much along the same method that the Company itself has used in connection with its per cent condition of automo-

bile equipment, which was really on a like basis, ex-
5570 pressed in number of miles; and in its per cent condi-

tion of storage batteries, it instructed its men to determine the facts dealing with remaining service life of storage batteries, and it did so in connection with its cords and plugs and jacks; it made a measurement process, it is true, out in the field, but it was to determine the remaining service life expressed in terms of dimensions—length of cords; but, nevertheless, it was a ratio much similar to this.

Per cent condition has been used in so many different ways that I would prefer not to define it myself.

"Judge Wilkerson: Well, now, tell me what you think the Commission meant by it when it said that this property was in 90 per cent condition."

5571 As to what the Illinois Commerce Commission meant by per cent condition, I think that there is plenty of evidence in the Commission's order, and in data furnished by the Company to the Commission, which associated with the data that the Company furnished to the former Commission,—and is specifically referred to in the former Commission's order—to the effect that it only included the visible deterioration, and gave no consideration to obsolescence and inadequacy that was not visible on the surface. I believe there is no doubt at all that the Commission, the Illinois Commerce Commission's order of 1923, when it refers to 90 per cent condition, refers to simply the operating condition of the plant, which of course, everybody will admit is in fine condition. But here I would like to point out in answer to your question, the Dearborn Central Office Equipment, which is shown by the Company to be in 94 per cent condition; within

30 days after they made this assignment of per cent
5572 condition, the office was removed from service.

As a matter of fact, the record here shows that some of the inspections made by the men were after the office had actually gone out of service. It might well be that some of the apparatus had never been used at all. This computation shows the life that the Company uses in its depreciation rate,
and it is a calculation based on that; that is to say, the
5573 life is used in determining what is to be set up as the annual expense of depreciation. We run right into the legal theory as to what is the correct rule for estimating depreciation to be deducted from the value of property for rate-making purposes, and the rule to be followed in determining what is to be set up as the expense of depreciation, and whether the one necessarily controls the other or not. In case the court should want to give consideration to age in this problem, this will give the relation of the expired age to the total life.

5574 If the court does not agree with defendants' theory my exhibit probably does not mean anything to the court.

If we were to assume that salvage is zero, then the figures in Column 7 in X-185 would represent the same thing as is represented by Column 8. If there were no salvage,
5575 there would be no Column 8 in there, and we might say Column 7 would take the place of Column 8. So that then I would have a per cent condition in my column, and would have placed alongside of it, in parallel, the per cent condition as found by Mr. Redmund upon inspection of the property. I have determined the per cent condition by means of a mathematical procedure or formula. There is no question but what mathematics was applied to produce these
5576 results. I will discuss your illustrations. The first one is the case of a Central Office consisting of an initial installation and one addition. The initial installation is made January 1, 1926. This hypothetical office will be retired January 1, 1940. The life-years of the initial installation then will be 14 years. The cost of the initial installation is $10,000; there are 140,000 dollar years. An addition is made January 1, 1931, which is just five years after the original installation; the date of retirement of the addition will be the same as that of the original installation because the office goes out

January 1, 1940; the life-years for the addition are nine years;
the cost of installation of this addition is $40,000; the
5577 dollar-years for the addition are 360,000; the total dol-
lar-years are now 500,000; total cost of installation is
$50,000. I get the average life of that office by dividing the total dollar-years by the total of the gross additions, and in this case I get 10 years.

In this illustration the age at December 31, 1930, which is similar to my Column 5, in X-185, is five years, and the estimated total life, Column 6, is 10 years. The per cent of total
life remaining at December 31, 1930, Column 7, on that
5578 basis, would be 50 per cent. And, therefore, disregarding
salvage the per cent condition similar to Column 8 of X-185 would be 50 per cent.

Another illustration you present is as follows: This office will consist of an initial installation and one addition, and the date of the installation of the original office will be January 1, 1926, as in the other case, and we will
assume in this case that the office is to be retired Jan-
5579 uary 1, 1934, this office will be one which turns out to
have a five-year life instead of ten years, as in the first example; the life-years of the original installation then will be eight; the initial installation cost $10,000, so that you get 80,000 dollar-years for the entire period; the addition to the office is made January 1, 1931, so that the addition will have a life of three years; this addition cost $15,000; you get therefore 45,000 dollar-years; and you have then the total cost of installation of the original office and the addition, of $25,000 and you have 125,000 dollar-years, which gives a five-year
average life of this office. To make the computation on
5580 this office as it is made in Exhibit X-185, the age at
December 31, 1930, is five years; and I have already determined that the estimated total life, which is Column 6 of X-185, is five years. The per cent of life remaining then is zero on the foregoing calculation. The per cent condition of that office is zero by my formula.

In this illustration we have an office with $10,000 of property, on the basis of the original investment, which at December 31, 1930, the date when I figured out its per cent condition by my formula has three years of life in service before

it will be retired, and yet it is in zero condition by my formula.

5581 You probably could go on with any number of illustrations that you can think of,—I cannot imagine how many.

"Q. Yes. Now, of course, in the last example that you
5582 have worked out, the office that has five years of remaining service life, and that will not go out of service until 1934, cannot be in zero condition; and the thing is simply absurd, is it not, and shows your formula to be ridiculous, is that not so?

I ask you in fairness, if that is not so?

A. Well, this office does not have five years remaining service, according to your illustration.

Q. It has three years?

A. I think it has three years.

Q. Three years, yes.

A. Three years of remaining service life.

Q. Yes.

A. I do not consider the method ridiculous, no.

Q. All right. Let me ask you this: You have testified that you come in here with a formula, a mathematical procedure, which you have explained fully, for determining the per cent condition of offices. You are an accountant. Do you wish now in the face of the testimony you have given here, to still stand back of this formula or not?

A. Yes, sir, I do.

Q. All right.

A. I think it is perfectly reasonable."

5583 Exhibit X-186 is the same kind of an exhibit, and made up on the same basis as X-185, except that it applies to buildings instead of Central Office Equipment.

As to whether Exhibit X-178 (Page 2, for instance)
5584 was my idea, my previous answer stands for all these exhibits. They were worked out with counsel. If counsel had not desired them in, I should have been unable to put them in. He decided what was to go in. As to the theory or idea upon which it is made up, whether it is mine or counsel's or both, I do not know what theory you refer to. As I see it, it is practically a statement of facts, of the actual salvage that the company realized, compared with what that

figure would have been based on its estimate in prior years, based on the span of life that the company used. The figure
of $933,181 for the year 1929 opposite the account Cen-
5585 tral Office Equipment is a calculation based on the figure that follows it, in the next column of $1,438,988. I mean exactly what I just said. I was not confused about it. Let me explain it in more detail. The figure of $1,438,988 shown in the next succeeding column represents the actual salvage realized in 1929. That, as shown on page 1 of this exhibit (X-178) represented 30.84 per cent of the retirements. Now, then, if that is 30.84 per cent, I determined what 20 per cent would be, the 20 per cent figure being shown at the head of this statement, to the left, and the 20 per cent would be then $933,181.

5586 Exhibit X-170 on page 2 for the year 1929 shows retirements of Central Office Equipment of $4,665,908. The $933,181, on Exhibit X-178, page 2, is 20 per cent of that amount. The figure "Actual" alongside of the $933,181 is the actual salvage recovered from the retirement of $4,665,000 in that year. I believe there purports to be some comparison between the actual salvage which the company realized from the retirement of Central Office Equipment in 1929, and 20 per cent of the retirement in 1929. Counsel, of course, will
5587 argue the correctness of the comparison and the propriety of it. Counsel and I discussed it. The comparison is as follows. In 1919 the company estimated the life of this class of equipment to be 10 years. It then estimated that it would recover 20 per cent salvage. Ten years later in 1929 they did retire equipment of this type, and they did recover 30.84 per cent salvage. This is simply a comparison of those two facts.

I do not know how many Central Offices were in serv-
5588 ice in 1919. I presume 34 is correct. The company in making up its depreciation rates for the annual expense of depreciation at that time was figuring out the average life expected for those offices and the salvage on the average that it expected to recover upon the retirement of those offices. That is, the company was getting its depreciation rate by means of service life and salvage on a straight line basis. The company was determining its depreciation rates on the straight line basis, in the manner just stated, on the Central

Offices there were then in service. It applied those rates on the book investment as of those years.

5589 The 20 per cent estimated salvage had application to all of the offices, as an average. Several of those offices which entered into the 20 per cent salvage calculation of the company back in 1919, have gone out of service prior to the date, 1929, that is used for my first entry on Exhibit X-178. I testified here two or three days ago on direct examination to the list of offices, giving the dates of retirement. I did not set down the estimated salvage and the actual salvage from those offices that have gone out between 1919 and 1929, because I did not attempt to make any complete study of

5590 this situation, and because the exhibit involves a span of years equal to the life, and prior to 1919 I did not have a very detailed or complete depreciation table, because prior to 1921 the company did not use individual rates for the various types of plant, and the earliest complete—or more or less complete—depreciation table I found, was dated 1919.

I have no figures in my papers here, showing the salvage that the company has realized from the retirement of Central Offices that were in service during the year 1919, that have been retired since that date.

5591 I saw some figures in Mr. Turner's records purporting to deal with two or three offices retired in that intervening period, but I have made no check of these salvage figures which you ask me to assume to be correct.

One of the offices in 1919 to which the 20 per cent estimate of salvage applied, was called Central. That was retired in 1923; the Company realized a net salvage of 28 per cent on that office; the next office was retired in 1928, being still one of those that was in service in 1919, and upon that the Company realized salvage of 5 per cent; the Main office—that being the office designation of one of the group in service in 1919—was also retired in 1928, and the company realized 12 per cent salvage.

5592 The Tandem Office, which was one of the offices in existence in 1919, was retired in 1931, but I do not know that the Company realized 1 per cent salvage in that retirement.

5593 I haven't the figures by individual offices. Of course, this Exhibit X-178, page 4, indicates that the actual sal-

vage received is less than that estimate of 20 per cent; it shows that on its face, the composite figure.

If you were to make a comparison between the 20 per cent salvage which the Company was estimating for the whole group of offices in 1919, with what it realized in salvage from the Delaware Office last year, 5 per cent, you would get a startling discrepancy. The 20 per cent that the Company was using in 1919 was not necessarily a forecast by the Company that it would retire the Wabash and Toll Offices in 1929, and in that year would recover as salvage from those two offices $933,000. That ten years is the average life of the property.

5594 I took ten years because it was the average life of the property. The Company retired in 1929 two offices, Wabash and Toll, the cost of those offices being as shown on my Exhibit X-170, page 2, making up the great bulk of the $4,665,908. The figures shown in this exhibit probably include other incidental retirements at all the other offices in the city. I have not got the detail figures for the two particular offices, but it would be included in there, whatever retirements were made in that year.

5595 "Q. Yes. Now, take the case that I supposed, that instead of actually retiring the Wabash and Toll Offices in 1929, it had not retired them until the next year. Then taking the ten year span of life as you did here, you would set down what estimated salvage? There would not be any estimate at all, then, for retirement, would there?

A. In the year 1929?

Q. In 1929.

A. Based on the figures that I have?

Q. Yes.

A. Why, if there were no retirements, there would be no figures.

Q. Yes, neither estimated nor actual.

A. No.

Q. Take the year 1928 and assume that the Company did retire the Randolph and Main Offices, as I suggested a
5596 while ago, and as I will prove later by Mr. Turner, and that it did receive 5 per cent and 4 per cent salvage. Can you tell me any reason why, since the Company's estimate of 20 per cent applied to a group of 34 offices in 1919

in which those two were included, you should not make your comparison on this exhibit for those two offices between the estimated and the actual? If the question is involved, Mr. Tholin, and you are not clear about it, I will have the reporter read it.

A. I think I probably grasp the question. I have tried to make clear that this exhibit is simply what it purports to be. It is the mathematics applied on the span of life.

Q. But if you had compared in a similar manner, in a manner similar to the comparison you have made here, for the year 1929, the company's estimate of 20 per cent which is applied in 1919 to the whole group of 34 offices, with the actual salvage recovered by the Company from the retirement of the Randolph and Main Offices in 1928, you would get a showing widely the other way, would you not, namely, that the Company had overestimated its salvage; it actually recovered less than the estimate?

5597 A. If I performed the mathematical computation you suggest, of course, it would be—

Q. Yes, certainly.

A. —in the reverse."

5598 In Exhibit 158, page 1, I make a comparison of the allowance which the Commission made in its order for maintenance and depreciation, with the amounts that the Company has actually charged for maintenance and the amounts it has actually accrued for depreciation.

At the bottom of the sheet in footnote "a" I have set out from the findings of the Commission, finding No. 11 on that point. The Commission found as follows, as shown on my exhibit, "That a fair allowance to take care of maintenance and retirement charges for said property in use as of December 31, 1922, is $7,869,400, and that this sum, plus 8½ per cent of all additions and betterments will be sufficient and adequate to permit the Illinois Bell Telephone Company to properly maintain its Chicago property."

5599 The Company has offered in evidence in this case an exhibit to show what it considers the proper comparison between the Commission's allowance and its actual charges and accruals, and on the company's exhibit it appears that the Company takes as the basis of its computation the sum

of $7,869,400, and adds to that sum 8¾ per cent of all net additions as shown in Exhibit A-59.

"Q. Now, in your exhibit, you do not allow the Com-
5600 pany, in your computations, the sum of $7,869,400 plus 8¾ per cent of additions and betterments, do you?

A. My statement explains exactly what I did allow.

Q. Well, all right, but the answer first is no, isn't it; you don't allow $7,869,400, and that sum plus 8¾ per cent of additions and betterments?

A. If you will change the last few words to net additions instead of additions and betterments—

The Court: Well, the exhibit does not say net additions, does it?

A. No, it does not say net additions.

A. I will answer your question no, generally. I do not think your question fairly states what I did, but I will answer it no.

Mr. Bracelen: Well, if my question was unfair in any respect, I want to correct it. Will you read my question for me, please?

(Question read.)

Mr. Bracelen: I don't think my question is unfair."

My point is that additions and betterments in the Commission's order does not mean net additions and bet-
5601 terments, but does mean gross additions and betterments. By net additions is meant, gross additions less retirements, so that if a company were not growing at all, it would have retirements, of course, and would have gross additions, so that if in this case the Company, having plant and equipment in service on December 31, 1922, had not grown since that date, and continued to have eighty-five million dollars worth of property on its books, and continued to retire property and add property to take its place, I would do just what I have done here, nevertheless, reduce the
5602 amount constantly upon which I would allow the Company 9.18 per cent that I figure out. The amount left at the end of 1930, of the original $85,000,000 upon which the Commission allowed the $7,869,000 for maintenance and depreciation is $25,000,000.

The difference between what I have done in this exhibit and what the Company did in its exhibit is this: That I re-

duce the Company's allowance made by the Commission upon
$60,000,000 worth of the original $85,000,000 worth of
5603 property from 9.18 per cent for maintenance and de-
preciation to 8¾ per cent. In other words, that is a
difference of 43/100 of 1 per cent on $60,000,000 against the
Company, as compared with the Company's own basis.

Redirect Examination by Mr. Goldstein.

According to this method which I followed here last, the calculation is intended to be on the basis that the Company would be allowed an expense of depreciation, the full amount put into the property.

5605 Referring to the situation covered by Exhibit X-185, Mr. Bracelen's illustrations are, in my opinion, very one-sided. There may be, no doubt, individual items in here that may work out something along the lines of Mr. Bracelen's computation, but there are others in the group that would probably work out opposite, and the average between the two, I could not predict what it would be, but I do not think, if it were worked out, that the average of all of it would be far from the real facts in the situation.

X-185 takes into account a growing plant, and takes into account the fact that there is included in the depreciation rate applied to the existing property a rate which is accumulating money to take care of the additions not yet placed in the property.

5606 With reference to the question of future additions to property, and the effect upon X-185, future additions, considered by Mr. Turner in determining his life, are included and have their effect upon these figures. If we excluded the future additions used by Mr. Turner and dealt with the property in existence at the end of 1930, the date of the valuation, the 36.44 average appearing at the bottom of Column 8 would be a little bit higher. It would be 43.95 per cent.

When I was asked by Mr. Bracelen to produce my work papers, upon the basis of which I stated that in my opinion the effect of using 2 per cent instead of 5 per cent salvage
5607 would be approximately 21 years (A-234), I wanted to explain that I noticed that all the facts were not on that particular sheet, and that I had to locate additional papers.

When I was asked whether in my opinion, the purpose of the depreciation rate was to recover for the Company its

investment in station apparatus less the junk salvage, and I answered that it was, I wanted to explain that in my opinion there was not anything wrong with my Exhibit X 183; that it purports to show the depreciation accounting as applied by the Company in determining its expense and as a comparison of the reserve, with the remainder of the investment after allowing for the various salvage figures that the Company makes allowance for in its depreciation rate.

5608 The salvage figures that the Company used in computing its depreciation expense for station apparatus, were 60 per cent in 1920; 65 per cent in 1921 to 1923, inclusive, and 70 per cent thereafter. In Mr. Turner's Exhibit A-128, page 33, on the lower part of the page is shown a chart indicating that the salvage on this type of equipment has averaged in the neighborhood of 75 per cent, during the period 1914 to 1929, inclusive, which is a higher per cent than the salvage rates that the Company uses in its depreciation expense. Mr. Turner made an explanation on this record that the figure used by the Company gave consideration to the lower salvage that the Company obtained on certain sets that were junked.

I think there is one principal difference which is quite material between the treatment by the Company of the station apparatus account with respect to retirements and with respect to the credits to the depreciation reserve, and its treatment of other items of plant. These instruments are

5609 removed from the subscribers' premises quite frequently, according to the evidence here, approximately once every four and one-half years on the average, and they go back to the Western Electric Company and are gone over, and anything that is wrong with them is repaired. If any parts are bad, they are removed and new parts put in, the old parts junked, and all of that expense involving the junking of certain portions is charged to maintenance expense; so that the station is kept up by that process and the Company considers that station, if and when it comes back, on about the same footing as a new station.

When station apparatus is taken out of service for the first time, the accounting procedure with reference to the depreciation reserve, and the plant account is as follows:

The station is removed from plant account at the average unit cost, and this amount is charged against the depreciation reserve. The reserve receives a credit for estimated salvage, which is based upon the then market price of the new station, less the supply expense and possibly some little parts that may not be recovered, which are lost. The station is then turned over to the Western Electric Company. That credit to the depreciation reserve for salvage in the case
5610 of the first reusal is about 92 per cent, according to Mr. Turner's testimony. In the Company's depreciation expense calculations, they figure for station apparatus 70 per cent salvage.

Re-cross Examination by Mr. Braeden.

The depreciation rate which the Company applies to station apparatus in accruing depreciation annually is a rate which is to provide for the loss to the Company for depreciation of the instruments, the difference between
5611 the original cost and whatever the salvage is that it gets.

It is not correct that Mr. Turner employs a salvage of 5 per cent in arriving at the depreciation rate which the Company applies. In determining his rate, he used 70 per cent salvage.

Three reuses, or four uses, are assumed by the Company. That is the basis upon which Mr. Turner has arrived at the depreciation rate that the Company has been applying recently. The rate for depreciation expense purposes is determined upon the basis of the life of the station in one location.

I do not agree that I know that on the average there
5612 are four cycles of life for each station, but that is what Mr. Turner said.

Assuming 70 per cent salvage at each location, except the last one, when the junk salvage of 5 per cent comes into the calculation, and assuming an average life in each location of 4½ years; you have the depreciation rate then determined by life and salvage in one location of 30 per cent divided by 4½ or 6.7 per cent as the annual rate.

During the life of the instrument in the first location, which

is the original installation new, of the instrument, you will accrue on the average 6.7 per cent of the cost of the instrument over a period of 4½ years, and assuming that the cost of the instrument is $10 the credit will be approximately $3 for four and one-half years.

The cost of the plant removed at the end of the 4½ year period is the $10 instrument. That is the debit in the depreciation reserve account.

5613 The salvage recoverable at the end of that first four and one-half year period of use is 92 per cent of the $10, which is a credit entry of $9.20; so that at the end of the four and one-half years in the first location on the average you have credits, $3 and $9.20; debits, $10, or a net credit in your net depreciation reserve account of $2.20.

Now take the instrument new in its second location, you have $3 credit, as in the first case, $10 debit; when the instrument comes out at the end of that four and one-half years, salvage of $9.20, and a net credit for this second cycle of its life of $2.20, which carried over into the balance credit column gives us now $4.40 accrued in the reserve.

Now, at the third location you have exactly the same computation. You get a net reserve credit of $2.20,

5614 which has accumulated now at the end of the third life, a total of $6.20 in the reserve.

Now, we come to the final service life of the instrument, the last period of four and one-half years, at the end of which time, according to Mr. Turner's calculation, the instrument will be finally retired and the junk salvage will be removed, and as already appears, the junk salvage has been estimated at 5 per cent, and the entries this time are accruals as before, $3, that is 6.7 per cent of $10 in the credit column. The instrument now finally goes out and is junked. You have a debit entry of $10. This item of salvage recovered is the 5 per cent junk salvage or 50 cents, the Company gets 50 cents back of this final junk salvage; so that the difference between the credit and the debit entries in the last location that we have just been talking about is $6.50. That is the net reserve charge, and according to the computations we

5615 have made, that is $6.50 charged as against $6.60 credit, or 10 cents discrepancy, which will be due to our failure to carry this out to the proper decimal point to make it come out even.

GEORGE B. McCANN, a witness on behalf of defendants, having been previously duly sworn, resumed the stand for further cross-examination by Mr. Thompson, and testified as follows:

Cross-Examination by Mr. Thompson.

(June 21, 1932.)

On Exhibit X-312 there are listed nine delays in furnishing information requested. They are all that are intro-
5616 duced.

In the sense that I have used it here, it is a delay if there is a lapse of time between the request and the granting of it.

I think it is quite obvious that our work was interfered with by these delays listed in X-312. If I am asked to do a certain thing and I have to wait ten or twelve days before I can start out, I am naturally that much behind. I do not know to what extent that might have been construed as "substantially" interfering with the work which we were doing with the Western Electric, but I do think they constitute some interference.

Mr. Hagberg, who was associated with me in doing this work, is now on his vacation.

5617 I am familiar in a general way with the work involved in the preparation of Exhibit X-35, which shows the shop variations to basic gross profits, plus and minus, and the other adjustments of the Western Electric Company.

I do not know it to be a fact that all of the underlying data from which that exhibit could have been prepared had been delivered to Touche, Niven by the Western Electric Company, because I personally did not work on it.

"Q. Now, if there is any dispute about that, I want Mr. Hagberg back, and I will put this other question. I will ask you if it is not a fact that at the request of Touche, Niven, and Mr. Goldstein, five men, employes of the Western Electric Company, who were here for the purpose of assisting the plaintiff in the presentation of its case, spent an
5618 aggregate of thirty days' time in assisting Mr. Hagberg in the preparation of his Exhibit X-35. Now, if he says he does not know, if there is any dispute about it, I want Mr. Hagberg back.

Mr. Goldstein: When Mr. Hagberg started to work on these questions of the shop variations, we got all the assistance that we asked for from the employes of the Western Electric Company, whether there were five men or two men or ten men or fifteen men, I do not know. But he stated from the witness stand that we got all the co-operation.

Mr. Thompson: We took five men, who were out here, to help do the work, and they spent an aggregate of thirty days' time helping you.

Mr. Goldstein: The record will show that those five men were sitting in the courtroom, and I asked Mr. Gregory
5619 whether they were all in the courtroom to assist in this case and he said yes, and those are the five men that Mr. Thompson turned over to us, I suppose. And if you want all the facts, it was from July until January 1st, that we kept on requesting until we got it.

Mr. Thompson: All right."

I was engaged in work in New York in the office of the Western Electric Company, in an office furnished for us, continuously between February 12th and February 25, 1932.

At the time I commenced this work, the Western Electric Company was on a five-day week, so that its employes were not working on Saturday. What happened was, that these records that we wanted were brought down to the room that we were given the use of, and there was a custodian, and we were permited to use the records in that room.

I believe it is correct that between February 12th and
5620 February 25th at our request, the Western Electric Company kept its office open on two Saturdays, one holiday and six nights in order to facilitate our work in the examination of these records. When I first went to the Western Electric Company in connection with these records, I knew that others were requesting and obtaining that information for the City of Chicago and the Illinois Commerce Commission, the defendants in this case. I did not know there were four sources altogether. I knew that there was pending in other jurisdictions, either confiscation or rate cases, in which the same question as to the Western Electric prices and their reasonableness was involved.

5621 It is possible that I knew that when requests were being made by four different people of the Western Electric Company, that there was always a chance that there

would be a duplication of requests. I do not know what the fact is. I know that there were certain duplications that came to my attention. I do not know it to be a fact that the Western furnished information in this case, and the receipt of it was forgotten, and then weeks afterwards another request was made to furnish the identical information. I do not think it involves anything that I asked for. I cannot answer for the other parties, I do not know. I knew, in addition to that, that the Western had its own rather large business to attend to.

5622 In Exhibit X-312, referring to No. 9, which was the information I said was requested at noon one day and furnished at 10:15 the next morning, I wrote the following: "The letter of February 12, 1932 requested certain information stated in that letter, and the notations at the bottom of the letter show the routine to get an answer to a simple request."

I do think there was a lot of endless red tape in getting this.

5623 The request of February 15th, analysis of average investment in operation, Bell and non-Bell business, seems to be the same request. A receipt from the Western Electric Company, which counsel for defendants has furnished shows that my request was received not at noon, but at 4:12 p. m. of the 15th day of February, and was supplied
5624 to us at 10:12 a. m. on the next morning. Those dates refer to the time that Mr. Coles received the request. He did not receive the request directly from me.

I think that the notations on that particular request outline the procedure that was followed. The request was not in writing at the time we originally made it.

Referring to item 1 as it appears on Exhibit X-312, under date of December 29, 1931, we requested analysis of 1925 cost of sales and supporting details. In a letter that was written by Touche, Niven & Co. signed by Mr. Whitworth, this paragraph appears:

"In regard to the analysis of cost of sales for the years 1925 and 1930, all of which we have already been provided with a photostatic copy by Mr. Benjamin Goldstein, we
5625 should like to have the opportunity of examining the breakdown or makeup of this statement when it is convenient for your officials to give it to our men."

On the same day that this letter was delivered, Mr. Gregory's men delivered to us the 1930 analysis of cost of sales.

"Q. On the same day Mr. Gregory called Mr. Whitworth personally on the telephone and told him that the work-sheets and underlying data for the constructive analysis of the cost of sales of 1925 were available for your inspection at any time, called him on the telephone and told him that, didn't he?

A. I am not familiar with what conversation he may have held with him.

Q. And also told him that he, Mr. Gregory, wanted to use the underlying data of 1925 for two or three days,
5626 and that he assumed that Mr. Whitworth could go ahead with the underlying data for 1930, and that when he finished with the underlying data for 1930, Mr. Gregory would gladly supply him the other.

Now, I am going to show you a letter dated December 30, 1931, from Mr. Gregory to Mr. Whitworth. You read the first paragraph of that letter and tell me if what I said is not true.

A. Yes.

Q. Yes, sir. That is the No. 1, that you are complaining of.

Now, let us see, first we gave you on the date you asked for it the 1930 analysis; secondly, on the same day Mr. Gregory telephoned to Mr. Whitworth, saying that all of this was available at any time, but that he, Mr. Gregory, wanted to use the 1925 analysis for two or three days, that is right, isn't it.

A. That is the statement in the letter.

Q. And the following day he confirmed it by letter. Now, that is not all that happened, is it? You know that on the 30th day of December, the day following this request, at your application, Mr. Gregory sent Mr. Meason, one of the
5627 employes of the accounting department of the Western Electric Company, he sent Mr. Meason to your room, where he worked with you a substantial portion of that day, a substantial portion on December 31st, and a substantial portion on January 4th, explaining to you the method by which this analysis of cost of sales had been put up.

A. He worked with me.

Q. Yes, sir.

A. I am not certain of the amount of time he spent with me."

In addition to that, January 1st was a holiday. That came on Friday. Saturday, January 2nd was a non-working day with the Western. Sunday was the 3d of January. I got this folder, this second folder of which we are com-
5628 plaining, on the 8th of January. We had this second folder available for our inspection for twenty-six days after it was delivered to us, and the other folder for twenty-six days, plus the interval elapsing between December 29th, and January 8th.

"Q. Now, I have got these two folders in the court room. What was your purpose in wanting to inspect these folders?

A. Mr. Goldstein was supplied with two photostatic copies of analysis of cost of sales for the year 1925 and the year 1930, and we made an examination of this underlying data to see what data the company had underlying the preparation of these two photostats."

Our purpose was to find out the method that the company had used, a general scrutiny of the records to see what was there. Particularly we wanted to know the method. We had instructions to that effect.

These had been specially prepared by Mr. Gregory. In other words he had been requested in Michigan to build up a constructive analysis of cost of sales for the year 1930, and he had been requested, in Ohio to build up a constructive analysis of cost of rates for 1925.

5629 I believe it is correct that those were not papers that Mr. Gregory had prepared his exhibits from, that had been introduced in Ohio.

The most of what we were after in this case was to ascertain the method, and to take whatever fact we could get from the papers.

"Q. I want to know whether you took a single fact off those records in those two constructive analyses of cost of sales?

A. I may or may not. Many—

Q. You may or may not. You are complaining of it. I want to know whether you did or did not. Not what the possibility is. What is the fact.

A. I cannot answer that; I do not know.

5630 Q. Isn't it a fact that after all these statements,

you still want to stand you still want to maintain before this court that you were inconvenienced in the slightest by any delay that you now claim with respect to item No. 1?

"A. If you had furnished the 1925 cost of sales, we would have used it generally with the 1930 cost of sales."

There was no particular reason for not bringing in Mr. Gregory's letter of December 30th, which had that explanation in it: It was not purposely left out.

I do not see that that makes the slightest bit of difference on the question of delays, that Mr. Gregory had telephoned to Mr. Whitworth and told him that the company wanted to use this for a few days and then it would be furnished to him.

5631 If you put it that way, my position is, when I want anything, I want it, and without respect to the convenience of the company that it is used in other matters, my position is that it was to be delivered to us immediately.

"Q. All right. I am glad to get your viewpoint.

Mr. Haight: Of course, our view is, in view of the long delays that we participated in, that immediately was not soon enough.

Mr. Goldstein: Particularly in view of our promise to start on February 15th in this case.

Mr. Thompson: We will discuss that when we meet it.

Q. Now, I want to take it up No. 7 on this list.

The Court: In other words, they should have furnished it sooner than immediately?

Mr. Goldstein: From July to December we could not get anything, and we were after something.

I do not know when Mr. Goldstein got these photostatic copies.

5632 Mr. Thompson: I will ask you if it is not a fact that the photostatic copies which you are talking about that you had were in the possession of Mr. Goldstein from October 6, 1931 until the date when you made this request, and they were forwarded to you October 6th, and they were forwarded to you: October 6th, November, December, two and one-half months?

A. I do not know when Mr. Goldstein received them."

It may or may not be true that item No. 7, under date of April 8, 1932, a request for adjustments made to net profits to obtain net income in federal income tax returns, was not

a request for inspection but one that the Western Electric Company compile the information for us.

5633 (Counsel reads from letter of request dated April 8, 1931 as follows:)

"In connection with our examination relative to the Chicago rate case, will you kindly furnish us with the following information:

"'1. Total federal income taxes paid by the Western Electric Company, Inc., and subsidiaries, applicable to each year of the period 1916 to 1931, and showing also by years how the total tax has been apportioned among the separate companies;

"2. Federal income tax charged to profits, by years, by the subsidiary companies of the Western Electric Company, Inc."

That is the request we made. As to whether it calls for any work on their part, I do not know. There are a lot

5634 of things that a corporation prepares itself that it could just turn over to me. I understood it did require work. At least, I was told it required work.

"Q. Yes. That request was delivered to the Western Electric Company on Friday, and on Monday morning, April 14th, you were advised definitely that the preparation of the material which your had requested involved considerable work?

A. I was advised that it required work. I do not know how much work."

I do not recall what I was told at the time. As a matter of fact, the thing that we requested involved not only the Western Electric Company, but when it was furnished to us, it also involved the Manufacturers Junction Rail-

5635 way, the Hudson Street Corporation, the Electrical Research Products and its foreign subsidiaries, the Electrical Discount Corporation and the Graybar.

In so far as those corporations had been in existence, the information was furnished us for the entire period 1916 to 1930 or 1931. When we got that, we weren't done then, there were a couple of questions. I believe it is correct that this statement was delivered on the 19th, and on April 22nd, the Western Electric Company furnished us additional information on this subject matter in response to our oral request.

An additional statement was furnished to us in answer
5636 to further oral questions which had been raised by us.

Finally, on April 28th, Mr. John Burgess explained certain data on this subject to our Mr. Loutit, a man who was working under my supervision and direction, and assisting us on this job. Under those circumstances I still claim that there was a delay with respect to that. We have a claimed delay with respect to the Consolidated balance sheet. That request was made by us on January 27, 1931, and the data was furnished to me on February 11th. I do not know if it was furnished to Mr. Goldstein also. I do not recall whether Mr. Goldstein was there when it was furnished.

5637 I assume that by letter of December 19, 1931, Mr. Bracelen wrote to Mr. Goldstein in part as follows:

"I am enclosing you herewith the following exhibits, which we propose to offer in connection with the testimony of Mr. R. H. Gregory, comptroller of the Western Electric Company:

"Consolidated earnings of the Western and its subsidiaries for the years 1916 to 1931, inclusive. This is a new exhibit."

It was the date back of this exhibit about which I am now claiming a delay. The next to the last paragraph in this letter is as follows:

"We are having the figures for 1931 appearing on Exhibits 1, 2 and 5, and all the figures appearing on 3 and 6 carefully audited and checked."

The letter also says:

"I do not believe there will be any major changes, but as soon as this work of auditing and checking is completed, I will advise you definitely as to the result."

5638 I did not know of that letter when I made this request.

A letter of February 11th from Mr. Bracelen to Mr. Goldstein, the same date that I made my request is as follows:

"Dear Sir: On December 19, 1931, I sent you six exhibits which we propose to offer in evidence in connection with the testimony of R. H. Gregory, comptroller of the Western Electric Company. I advised you at that time that we were having the figures for 1931, appearing on numbers 1, 2 and 5, and all the figures appearing on No. 3 and 6 carefully audited and checked, and that as soon as the work was completed I would advise you definitely as to the results. This

work has just been completed, and no changes are indi-
5639 cated as a result of such work, except with respect to No. 3, which is the consolidated earnings statement of the Western Electric Company and its subsidiaries for the years 1916 to 1931, inclusive. I am enclosing a new exhibit for such consolidated earnings, which gives effect to the revision."

I did not know about that letter. The result was, that I made a request of the Western Electric Company on the 27th of January.

It seems to be correct that counsel for the City of Chicago knew if the Western told the truth about this matter, that the underlying data which I was applying for at this time was being examined and checked and audited, and that as soon as that was finished, plaintiff's counsel would advise whether the figures appearing on a statement that had been submitted in December were correct or otherwise. It also appears to be correct that he also knew that if the Western told the truth, the work in doing that had been finished on the 11th day of February, the same day that I got this underlying data.

5640 "Q. If that is true, do you withdraw your claim of delay?

A. I do not see how that affects me. I think that is up to counsel to decide whether to withdraw it or not.

Q. I see. I want to get this definite because I think it is important. If you made a request which you put in your exhibit and claim that delay resulted from it, and that you were impeded in your work, and you found out before your request was made, that a statement affecting the subject matter was delivered to counsel for the City of Chicago pursuant to whose directions you were working, and counsel was advised that auditors were engaged in checking the accuracy of those statements and using the underlying data, and if that was perfectly true, and if the minute that that was finished, these books were turned over to you for your inspection, you would still claim delay.

A. Well I think that is an argument for counsel."

5643 If I knew that the Western Electric Company, because of this litigation, had employed a firm of outside accountants to audit this consolidated balance sheet, and that they were engaged in working on it, and that our counsel

had been advised of that fact before I made this request, I think my statement stands as it is. I still insist I think it is a matter of argument between counsel. I do not
5644 want to become a party to the controversy. My viewpoint about it is that I would have liked to have received the information sooner than I did. I could have made use of it. I still say that, under those circumstances, I claim a delay for which in my opinion the Western is responsible.

Referring to numbers 4 and 6 on my statement, relating to two requests in which we desired the Western to make an analysis for us of principal items appearing on the Products Company No. 1 report for the year 1930, net operations; and in a later request, for the years 1927, 1928 and 1929, I don't know whether they had to get it up or not.

"Q. Well, they told you that they had to get it up, didn't they?

A. I think that is beside the point."

The company has a lot of statements—I am not in a
5645 position to know whether they have those statements prepared in the normal course of their business or not. They eventually gave the information to me.

What we asked for was "Analysis of principal items appearing on Products Company No. 1 reports." We had the report, but it meant very little to me. I wanted a breakdown on it.

Before the time I made this request, I had been advised that I could have the right to inspect all the books of the Electrical Research Products.

There were many reasons why I could not have done this job myself. To do the work myself would involve an
5646 audit of the Electrical Research Products. I was not making any audit of the Electrical Research Products.

"Q. What you wanted—and it is true time after time, isn't it, Mr. McCann—what you wanted was that the Western should do your work.

A. Not necessarily."

5649, Exhibit A-235 is the information which was furnished
5650 to us in response to requests 4 and 6. I knew, or was advised by the Western Electric Company, before these papers were prepared, that the information was not available in the form in which I requested it, without work, and that it would take a substantial time to prepare this statement.

In connection with the request No. 31, the request for the basis for the price paid for Teletype Corporation, was made by me February 3rd. When I made that request I did not know that Mr. Gregory had testified in Ohio, in the Ohio record, as to the basis of the price paid for Teletype
5651 Corporation. I knew Mr. Goldstein had the Ohio testimony, but I did not know what it covered, and I did not know when it was furnished. There was a misunderstanding between Mr. Gregory and my firm about the letter of April 3rd, with respect to Item No. 8. There was a conversation between Mr. Gregory and myself in which I said that I would rephrase the questions that were stated in my letter of February 3rd. I do not know that I told him he could disregard the letter. I repeated, almost verbatim every request contained in the letter of February 3rd, in the letter of February 8th, and then added three additional requests.

5652 I do not recall when I had the conversation with Mr. Gregory and I cannot say whether he could have easily understood from that conversation that these requests were not to have been answered until he got my additional letter. My impression is I did not receive any response to the letter of the 3rd, and that was the reason for the letter of the 8th.

There was some further misunderstanding about item
5653 8, I think I had tried to explain it to him. There seems to have been a misunderstanding about it.

As to No. 5, pertaining to a request for plant depreciation rates, Exhibit X-312, states "Number of the employes of the Western Electric." My letter of February 11th, making this request, is as follows:

"Data relative to the number of employes of the Western Electric Company, years 1916 to 1930, in so far as available, the number of new employes and releases or retirements in each year and the number in service at the end of each year."

I believe I was told it would take time to prepare this information about the separation of the Western Electric employes and the number of employes in service at the end of the year.

5654 (Exhibit A-236 was marked for identification.)

Exhibit A-236 is the sheet that was prepared and delivered to me.

I believe the Western Electric Co. furnished it to me when they finished it.

5655 R. C. RAINWATER, a witness on behalf of defendants, having been previously duly sworn, resumed the stand for further cross-examination by Mr. Thompson, and testified as follows:

Cross-Examination by Mr. Thompson.

(June 23, 1932.)

The only exhibits which have been identified during my direct examination that relate to the Western Electric Company are Exhibits X-293, X-294 and X-295 and Exhibits X-296 and X-297 and X-298 carry some percentages showing the return on investment from the capital stock
5656 of the Western Electric Company. They are based particularly on X-294. X-294 is more than a list of the investments of the American Telephone & Telegraph Company in the capital stock of the Western Electric Company from November 17, 1915, to December 15, 1930. It shows figures in X-293 computed on an average yearly investment and the dividends received are related to this yearly average investment.

5658 I do not know whether X-294, the column showing yearly investment, represents the original dollars of investment of the A. T. & T. in Western Electric Company. I know only that I have taken the figures which were furnished to me designated as X-293 and made a computation of the average investment yearly and related that to the dividends. I have no knowledge as to whether these amounts actually represent the original investment. The figures in the column headed "Average Yearly Investment" are the ones
5659 shown on X-293. In X-294 I am figuring a return on the dollars originally invested in the Western Electric
5660 Company by the American Telephone & Telegraph Company as shown in Exhibit X-293.

5661 If I started in 1916 with $100 invested in the Western Electric Company, and that was represented by one share of common stock; from 1916 until 1930 the company earned money which it did not distribute, and $900 of that money was applicable to my one share of stock, and, in

1930 the company earned $100 applicable to my share of stock, my exhibit X-294 would show the rate of return on my share of stock at 100 per cent.

On Exhibit X-294 I have included, in the year 1927, under the column, "Dividends received," a dividend in excess of $45,000,000 paid by the Western Electric Company to its stockholders. These exhibits (X-294 and X-295) attempt to show the earnings of the Western Electric Company in its total business, not in its Bell business alone.

5662 After I have arrived at the yearly dividend to the company on X-294, I then convert that, by the method which I explained to Mr. Blackman in the last column, so as to show a larger return to the stockholders than to the company. So that, for instance, in the year 1927, when the $45,000,000 dividend is included, the return to the company, as I figure, is 101.91 per cent, and to the stockholders 161.16 per cent.

5663 The Western Electric Company of Illinois sold its total assets to a reorganized corporation, the Western Electric Company of New York, at the end of 1915. Before that sale, the Western Electric Company of Illinois had a capitalization of $15,000,000 of common stock of the par value of $100 per share. When the New York corporation was organized, it issued $15,000,000, 6 per cent preferred stock, callable at $120. It also issued 150,000 shares of no par common stock.

5664 Assuming that the book value of a share of stock of the Illinois Corporation was $300, what the shareholder had on the date that this transfer was made, was one share of stock that was worth around $300.

When the preferred stock was redeemed I have treated the $15,000,000 of redemption as a cash dividend.

5665 I do not know the details of the organization of the New York corporation. I was asked by counsel to prepare this Exhibit X-295 on two bases. One, to treat the $21,000,000 as an amount of dollars received, included with the dividends, and the other basis, to treat it as an exchange of stock. That is all I have done with it.

The only facts on which I included "Basis I" were these: I was directed by counsel to show it in this way. I knew that in November, 1915, that there was one share of common in

the old company exchanged for one share of common
5666 and one share of preferred in the new. Some of the
preferred stock is referred to in my exhibits as bonus stock. It is not all bonus stock.

When the Illinois corporation sold its assets in November or December, 1915, to the New York corporation, it had $15,000,000 worth of common stock of par value of $100 per share; when the New York corporation was organized, it was organized with a preferred stock issue of $15,000,000, 6 per cent stock, callable at $120, if called before its due date, and 150,000 shares of no par common stock.

If I owned a share in the Illinois corporation, we will
5667 say, that had a book value of approximately $300 a
share, I got one share of preferred and one share of no par common in the new corporation. Of course, my new common stock was worth less than my old common stock, because it had a preference stock ahead of it. When they redeemed that preferred stock, on one of these bases, I have treated that as a cash dividend. My explanation as to what I was trying to show is that I was asked to show the return on the original capital of Western Electric Company. I am
experienced in rate matters.

5668 As to what I expected the court to do with it when
I got it up, I really did not give very much thought to the purpose of what it would show. I was merely asked to prepare the computations, and I did it, and that is all. I felt my responsibility in that ended there. If I subjected the Western Electric Company to the same rule that I apply to public utilities, the test would be, what is the reasonable return on the value of its property in a given year.

Referring to page 4 of Exhibit X-295, by following
5669 my method (Basis 1) on the redemption of this pre-
ferred stock, I get a return of 296 per cent in the year 1920. Without converting it for the yield per share outstanding, I get 328 per cent. That is all on account of this redemption. Likewise on page 3, in the year 1920, the per cent of dividends paid becomes 67 per cent on account of this transaction. On page 15 of Exhibit X-295 in the year 1927, the year when the special dividend was paid by the Western Electric Company I get 469.15 per cent, as shown in column 13.

5670 Page 10 of Exhibit X-295 refers to common stock issued December 2, 1929, which stock was issued for cash. It was issued on December 2d, and there was a dividend declared of $2 a share, $1 being a quarterly dividend and the other was a special dividend, and because the stock was issued in December, I have figured the annual dividend at 60 per cent, based on a period held, of one month. The same is true of page 11 of this exhibit, except that the figures are different, being based on period held.

5671 I do several things on pages 12, 13, 17 and 18 of Exhibit X-295. First, I classify the issues of stock by years or by periods of time, when it was issued. The classification is shown in the preceding pages, the same items. I find returns on an original issue of 70 per cent; on the common stock of 1920 of 17 per cent; on the common stock issue of 1922 of 47 per cent; on an issue of 1928 of 2/10 of 1 per cent; and then I get down on the next page as low as minus 19 per cent. What I tried to show here is to make a computation as regards the individual issues, to show that the book values of the separate issues, that is, the net assets applied per share to each issue at December 31, 1930, are more or less than the capital at the beginning of the period, and then in connection with that I have taken the dividends received during the period. In other words, I tried to show here as to whether the dividends during this period came from earnings during the period or whether they came from sur-

5672 plus of the prior period. That is what I tried to show here.

In Class 1, "Original issue of stock prior to 1916," page 12 of Exhibit X-295, the average investment that I have there, of $5,995,000, is the original investment in the stock of the old Western Electric Company of Illinois, most of it put in, back in 1881, 1882 and 1883 and the other early years.

5673 The book value of this stock on January 1, 1916, was $40,000,000. The process that I followed is briefly this: These people put their money into this corporation back in 1881 and 1882 and 1883 and 1884, and the other early years, a total of a little less than $6,000,000. By leaving the earnings in the business, when the New York corporation was formed; this stock had a book value of $40,000,000. From 1916 on down to date, substantial portions of the earnings have been left in the business, so that the book cost is now

$180,000,000. These earnings that I have got here are for the period 1916 to 1930.

It is not exactly correct to say that I have related earnings made in 1930 on a book investment of $180,000,000, to an original investment made in 1881 and 1882 of $6,000,000.

5674 The fact is that the $180,000,000 refers to all of the stock, and this is just the original issue of the stock; that is, the stock issued prior to 1916. Whatever earnings or whatever portion of the earnings is applicable to that stock, I figured it on the basis of its original cost, and not on the basis of any participation whatever in the undistributed earnings as left in the business. And then I take up each issue, and I find that the earnings range from 70 per cent, down to 19 per cent minus.

5675 I have sheets that are identical, so far as the set up by classes are concerned, but on page 12 I have a return of 70.96 on this original issue, and on page 17 I have 107.65 per cent. The difference is due entirely to the difference in the treatment of the basis 1 and basis 2. In basis 1 I have included the $24,000,000 as a cash dividend, and in basis 2 I have treated it as an exchange of stock, and in basis 2 I have a much larger number of shares of common stock at the end of the period, because of various split-ups. On one

5676 theory, I get 70 per cent and another theory 100 per cent, because in one of the exhibits I am treating this redemption of preferred stock as a cash dividend.

On basis 2 I treat the redemption of this preferred stock in reality as an exchange of three shares of preferred for two of common. I know in a general way what happened.

On the 19th day of February, 1920, the Western Electric Company had outstanding $30,000,000 par value preferred stock, 6 per cent, callable at 120, which would mean $36,000,000 for the purpose of calling that stock. Practically all of that preferred stock was owned by the American Telephone & Telegraph Company.

5677 It had a small minority interest in this common stock, so that on that day it offered for sale 200,000 shares of its common stock at $180 a share, under the law it was offered to every stockholder, that is the minority interest had the same right to participate in that as the American Telephone & Telegraph Company.

The A. T. & T. acquired its entire proportionate interest

in the common stock that was offered to it on the same day. The net result of that was that when it was all through, the Western Electric Company in substance had exchanged its outstanding preferred stock for new common stock. It was a reissue, and a rearrangement of its capital structure.

5678 In connection with that transaction, on one basis I treated this as a cash dividend to the amount of $21,000,000 in these exhibits. I was asked to prepare it on both bases.

5679 *Redirect Examination by Mr. Goldstein.*

On page 19 of Exhibit X-295, entitled "Earnings available for Common Stock related to Capital Stock and Surplus, based on Averages per Year," I show the earnings of the Western Electric Company related to the capital stock and surplus. That is all the earnings of the Western Electric Company as shown in the annual report. The other sheets on Exhibit X-295 deal only with the portion of the earnings which represents cash taken out from the Western Electric Company related to the cash put in.

Exhibit X-293, which is entitled "Investment in Capital Stock of Western Electric Company, Inc.,' from November 17, 1915, to December 31, 1930," is a copy of what counsel for defendants furnished me.

5680 Except for what was given me, I have no knowledge of the correctness of the figures shown on the first line, November 17, 1915, number of shares, 146,050 common, price per share $46.08, cost $6,729,710, and so forth, and also on the second line which appears on that sheet.

5681 "Mr. Thompson: That is all. The plaintiff objects to the introduction in evidence of Exhibits X-51 and X-52 for each of the following reasons.

The Court: Well, what is that?

Mr. Thompson: My objection will give your Honor what is shown in this exhibit.

It is admitted by Mr. McCann, who testified with respect to these exhibits, that he has deducted from average investment of the Western Electric Company, notes payable by the Western Electric Company to the trustee of its pension fund to the American Telephone & Telegraph Company and others, aggregating many millions of dollars. It is likewise

admitted that he has deducted from average investment in these two exhibits, claimed excess cash as testified to by him.

It is also admitted by Mr. McCann that he has not decreased the profits on account of interest paid by the Western Electric Company with respect to its notes payable, so
5682 excluded by him in average investment, or with respect to such claimed excess cash items.

Notwithstanding these facts, there appear on these exhibits for each of the years 1916 to 1930, the column headed, "Per cent return on Average Investment as adjusted (before depreciation)."

The exhibits are, therefore, not only of no aid to the court in the solution of any issue involved in this case, but do not represent the facts and are misleading.

To make the same objection to Exhibits X-84 and X-85, except that the excess cash item referred to in the preceding objection does not apply.

The plaintiff also objects to the introduction in evidence of Exhibit X-79; that is the exhibit that relates to the 309.4 per cent earnings of the Electrical Research Products, because it has been demonstrated to proceed on a fundamentally unsound and incorrect theory, and the results shown are contrary to facts.

Mr. Goldstein: Now, counsel evidently misunderstands X-51 and X-52. X-51 and X-52 are merely the exhibits which are a series of exhibits which we have used to lead up to
5683 the final conclusion, and these exhibits were prepared in view of the suggestion of his Honor as to what is the effect of a different kind of adjustment. And X-51 shows the adjustment—shows the effect on Mr. Gregory's exhibit, on the rate base adjustments. And then we have the exhibits which show the effect of the profits, and then we tie the two together and we give his Honor the final exhibits which we said should be the exhibits to use. And these exhibits are merely to contain the effect of the particular adjustments, and as stated in X-51, very clearly, they take the net profits per Mr. Gregory's exhibits and adjust the rate base, and show the effect of the adjustments on the rate base related to those profits. We have the other set of exhibits which relate—which take the rate base as Mr. Gregory used it, and show the effect of the profits.

Now, that is what these exhibits are intended for, and we

so stated at the time.

Now, the same comment will cover X-84 and X-85.

As to X-79, we take issue with counsel that X-79 was prepared on the wrong basis. Just so that counsel will
5684 understand something that he has not stated, that the necessary consequences of counsel's conclusion that you must include the loans of the Western Electric Company as part of the rate base, would necessarily involve the conclusion that the Western Electric Company earnings would not show the earnings merely on the basis of loans, but would show the full earnings on the basis of investment.

Now, that is a matter of legal argument. This exhibit was prepared on our theory of the case. It is there. If counsel has any other legal theory, he has his facts. We claim his exhibits are just as unsound on his theory as he claims that ours are on our theory. We both claim they are sound.

Now, your Honor, that is the contention of each of us.

Mr. Thompson: I have one more thing to say about Exhibits 51 and 52. I will not say anything about X-79.

Here is this extraordinary situation, your Honor: It is admitted by Mr. McCann that in these exhibits he has failed to reduce the earnings by about $16,000,000. Now, the result is, we have an exhibit in this case where he takes out
5685 from one side the investment, and fails to make a corresponding reduction in the earnings. He does not stop there. If he had stopped there, that would be another thing. And then he comes over here and attempts to put up, on a theory that no one can justify—

Mr. Goldstein: He can. We can.

Mr. Thompson: —a percentage return—a percentage average return as adjusted.

Mr. Goldstein: We can justify it.

The Court: I think I will do this about these exhibits. I will receive them in evidence, but the court will require that as to each of the exhibits to which objections have been made here today, that when the exhibit is printed into the record, the objection of counsel should be printed on the exhibit in some way so that the court will have before it the criticism which is revealed at the exhibit.

Mr. Thompson: That is fine.

The Court: I think they should go in, because from the standpoint of the plaintiff itself, if half of what is said about

this is true, and the court should agree with you in the end, it has a very serious bearing upon the weight which is to be given to all of the testimony of the witness who would
5886 do such a thing.

Mr. Goldstein: Yes.

The Court: So that I think the exhibits should go in with the objection revealed, the objection leveled at it in conspicuous form, so that the court will have just what this accountant has done and he will have the objection which is made to his work, so that they may have the benefit of the so that the defendants may have the benefit of it in the end on the argument in the case, that he has proceeded on an entirely fair and rational basis, the defendants will have the benefit of that when it comes to consider his testimony. If it appears that he has brought an exhibit in here on an utterly foolish theory, that has a bearing upon the weight that is to be given to all of his testimony.

Mr. Haight: May not the defendants also have their theory accompany the exhibit as well as the objection?

The Court: I would say I am not making it as to all of the exhibits.

Mr. Haight: No.

The Court: Just as to the one exhibit.

Mr. Haight: I said only as to these specific exhibits.
5687 The Court: Yes, I think that is fair. In connection with the exhibit, there should be printed what counsel has said in objecting to it, and what Mr. Goldstein said in defending it here this morning. I have no doubt that the attorneys who have charge of this work can agree upon the legend which is to be made on the exhibit.

Mr. Bracelen: Your Honor, I take it that the same instructions of the court will apply to all exhibits, as well as particular exhibits.

Mr. Thompson: Where objection is made.

The Court: Where specific objection is made. I have no quarrel with that way of handling it. It would be very convenient for the court to know if there is some particular point which is made against an exhibit, that it omits an essential element or something of that kind, to have it on the exhibit, or in the abstract immediately adjacent to the exhibit in such a way that the court will not have to go all through the record to find it; for instance, a criticism which

is made upon a heading here, average adjustment.

Mr. Thompson: I think that is a good suggestion.

The Court: Now, the criticism is made that it is
5688 unwarranted by any evidence in the record. Now, those exhibits should be so printed and the abstract should be so prepared that it will be brought to the court in such a way that its attention will be challenged, and they will not treat the objection on any other basis than that which is claimed for it, and when we come to consider the exhibit, we will have the point that is made against it in mind, and the justification for it. You can work that out."

5690 J. G. WRAY, called as a witness herein, in behalf of the defendants, being first duly sworn, was examined in chief by Mr. Haight, and testified as follows:

Direct Examination by Mr. Haight.

(June 22, 1932.)

My name is J. G. Wray of J. G. Wray & Company, and I am the same J. G. Wray who testified on the hearing in this case in 1929. I then stated my qualifications and my experience. I am still engaged in the same profession and occupation as that in which I was engaged when I then testified.

I have investigated the sales of the Western Electric Company to the Bell System customers in connection with the question of whether each Bell associated company purchases a representative or fair cross section of the equipment, apparatus and materials manufactured by the Western Electric Company for the Bell System companies. I based my study of this cross section of Western Electric sales in part, on certain data furnished by the company in the form of
5691 statements purporting to show sales of important telephone plant items of Western Electric Company manufacture, quantities sold to Illinois Bell and to total Bell System for the period 1924 to 1930, inclusive. These were the data and studies which Mr. Gregory testified showed that the Illinois Bell purchased a fair and representative cross section of the Western Electric Company sales to Bell System companies. This data was furnished by the company in the form of two tabulated statements; one being for the entire

period, and this was furnished to Mr. Goldstein several weeks ago. The other was for each year of the period 1924 to 1930, inclusive, and was furnished to me by Mr. F. B. Wright of the Western Electric Company, in the latter part of May. I have prepared an exhibit to show the data.

Defendants' Exhibit X-313, entitled "Illinois Bell Tel. Co. —Chicago Rate Case—Analysis of Sales 1924-1930 to Illinois Bell Tel. Co. and to Bell System of Important Plant Items of Western Electric Manufacture," consisting of three pages shows the following: The first page is the table of
5692 data purporting to represent sales of important telephone plant items of Western Electric manufacture to the Illinois Bell, and to the total Bell System in the period 1924 to 1930, inclusive. It is a copy of the table furnished to Mr. Goldstein.

The second table or sheet in the exhibit is the one furnished to me by Mr. Wright of the Western Electric Company and purports to show the sales to the Illinois Bell and to the total Bell System for each of the years 1924 to 1930, inclusive, these sales being itemized, as in the first sheet of the exhibit, excepting for the fact that for several years of the period, cable terminals are shown as two different items, the items representing separate codes. Loading coils are shown for most of the years as three separate items, and lead-covered cable as two separate items, these three classes—cable terminals, loading coils and lead-covered cable—being grouped on sheet 1 in totals only. There are seventeen plant items listed in the first table. There are twenty-one items listed on the second table.

5693 What I said a few minutes ago explains the difference in the number of items in the two tables. Mr. Gregory has testified that the Western Electric Company manufactures over 100,000 items. From my experience, I know that it runs into many thousands. These tables, 1 and 2 of Defendants' Exhibit X-313 do not represent all of the items of Western Electric Company manufacture. They do, however, represent some of the most important items being currently manufactured.

Referring to the first page of this exhibit, we
5694 find the item, "Large multiple sections." The data on the table shows that 1,082 of these sections were sold to

the Illinois Bell Telephone Company during the period, and that 10,221 were sold to the Bell System during the same period.

Now, a large multiple section of central office switchboard, and this is what it means, includes many different kinds of items, going to make up the 100,000 or more that Mr. Gregory testified to. There is section framework; there are jacks, lamps, lamp sockets, relays, cables and so forth, in great variety; and so, with each of the other items in the first group, labeled switchboards. In each of the other groups there are at least a number of items going to make up, what is characterized as an item, in the exhibit. For example, subsets in the second group of items, sub-sets 534-A, 584-A, 534-C, 584-C, 534-AC, 554-AR, 554-C, 534-AR represent a corresponding number of types of subsets. There are, however, many more than those listed.

Referring to each of these items that appear on these 5695 tables, generally speaking, they consist of a great plurality of items, and then each item in itself will consist of a plurality of parts. For example, the switchboard jack has a number of parts. The switchboard section has a number of separate parts, pieces of iron, screws, bolts, pieces of wood of different sizes and shape, all go to make a switchboard section when assembled.

Now, the term "Large multiple sections," is here made to include more than the switchboard iron and woodwork constituting the switchboard frame. It is made to include the apparatus that goes with the switchboard section.

In table 1, Defendants' Exhibit X-313, we are to look in the last column of page 1, where there is a list of percentage figures to get the final facts on which to pass upon the question of whether or not a representative cross section is shown.

The percentage in each line represents the per cent of manufacture of the important items listed, the manufacturers of Illinois Bell, the sales to Illinois Bell of the total 5696 sales to Bell System during the period, and we find, referring to the last column on page 1, that during the period, the Illinois Bell took, or purchased 10.6 per cent of the total sales to Bell System of the large multiple sections; 5.1 per cent of the small multiple switchboards; 11.6 per cent of the 550 and 551 types, and going down the page further to

dials used in the automatic system, either the step-by-step or the panel type, we find that during the period the Illinois Bell purchased 5.5 per cent of the total sales to the Bell System.

Based upon the showing in this table 1 of Defendants' Exhibit X-313, I have an opinion as to whether or not the sales to the Illinois Bell are a representative cross section of the sales of the Western Electric Company to the Bell System for the period 1924 to 1930, inclusive.

In my opinion, these data show that the sales
5697 to the Illinois Bell are not a representative cross section of the sales to Bell System during the period, 1924 to 1930.

Step-by-step lines comprise a very considerable proportion of the Western Electric sales to the associated companies of the Bell System. The Western sold no step-by-step equipment for the Chicago area during the period 1924 to 1930, for the reason that that area is served by panel type and manual equipment, and the step-by-step equipment is not used in the Chicago area, nor in other large population centers like Chicago.

The data on table 2 of this exhibit shows for each year from 1924 to 1930, inclusive, the total sales to the Illinois Bell, the total sales to the Bell System, and the per cent representing the ratio of sales to Illinois Bell to sales to Bell System for each year, for each item.

5698 Taking the year 1924 as an example, and the first item, large multiple sections, we find that the Illinois Bell purchased 157, and that the total sales to Bell System were 2,402, and that the Illinois Bell purchased 6.5 per cent of the total sales to Bell System.

Now, going across the line to the right, we find that in 1925 the Illinois Bell purchased 13.3 per cent of the total sales to Bell System of this item; in 1926, 4.2 per cent; in 1927, 12.5 per cent; in 1928, 45.3 per cent; in 1929, 3.5 per cent, and so on.

Again referring to 1924 and reading the percentages from the top item down, we find that whereas the Illinois Bell purchased 6.5 per cent of the large multiple sections, it purchased 7.1 per cent of the small multiple sections, none of the 550 and 551 type, none of the 505 and 506 type, 6.6 per cent

of the panel lines, 2/10 of 1 per cent of the step-by-step lines, 12.7 per cent of the 700 and 701 P. B. X.'s, none of the 740 P. B. X.'s, none of the 750 P. B. X.'s.

Now, in passing, I want to say that the 2/10 of 1 per
5699 cent of the step-by-step lines were for the state area and none for the Chicago area.

For the year 1924, out of total sales to Bell System of the side and phantom loading coils, amounting to 105,959, the sales to Illinois Bell were 3,831, or 3.6 per cent.

Now, reading down the column, the sales of the non-phantom coils to the Illinois Bell amounted to 7.6 per cent. There were no sales of the carrier loading coils. And then the total of all loading coils sold to the Illinois Bell in this year was 5.5 per cent of the total sales to the Bell System.

The step-by-step lines are the sixth line on both the first sheet and the second sheet of this exhibit.

Sheet 1, for the period 1924 to 1930, shows the sales to
5700 the Illinois Bell were 2.4 per cent of the sales to Bell System.

Referring to the second sheet of the exhibit, the sixth item, step-by-step lines, we find that sales to Illinois Bell in 1924 were 2/10 of 1 per cent; in 1925, 3.1 per cent; in 1926, none; in 1927, 4.2 per cent; in 1928, 3.2 per cent; in 1929, 2.9 per cent; in 1930, 2.2 per cent, and I will add that during the period there were no sales of this type of equipment for the Chicago area.

These percentages on table 2 represent the per cent of sales to the Illinois Bell to the sales to the total Bell System for each year, and those on table 1 for the entire period 1924 to 1930, inclusive.

Having just testified about the step-by-step lines, I would like to refer to the panel lines which represent a more important item of sales than the step-by-step lines. The panel lines is the fifth item on sheet 2 of this exhibit. The
5701 sales to Illinois Bell in 1924 were 6.6 per cent; in 1925, 5.1 per cent; in 1926, none; in 1927, 18.3 per cent; in 1928, 1.3 per cent; in 1929, 6.8 per cent, and in 1930, 10.5 per cent.

Table 3 of Exhibit X-313 is a set of computations under which the percentages for varying groups of years have been computed. The items on this page are the 21 items shown

on sheet 2, the same 21 items. The percentages shown represent the ratio of sales to Illinois Bell to sales to the total Bell System for each period, these periods being respectively 2, 3, 4, 5, 6 and 7 years each. They are in two groups on this sheet. The first group of periods begins with 1924, the first period being the two years, 1924 and 1925. The second period, the three years, 1924 to 1926, and so on.

5702 The second group of periods begins with 1930, the first one being the two years 1930 and 1929 together, the second period being the three years 1930, 1929 and 1928 together. A reference to these percentages for each and every one of the periods shows wide variations for the different items. For example, the first period shown on the sheet 3 is the two years, 1924 and 1925, and for those two years the data furnished to us by the company shows that the sales to Illinois Bell as a percentage of sales to total Bell System for the period were for the large multiple sections, 9.2 per cent; small multiple sections, 7.9 per cent; item 3,550 and 551 types, 11.7 per cent, and then reading on down the page, without reference to the items, the next is 6 per cent, and that is panel lines; next is 1.8 per cent, this being the step-by-step lines; the next one is 17.6 per cent; the next no per cent; the next nothing, the next 9.6 per cent; the next 0; the next 3 per cent; the next, which is item 13, 3 per cent; item 14, 8.3 per cent; item 15, 0; item 16, 0, this being due to the fact that the company had not separated the cable terminals into the types for these years.

5703 There are a number of facts that I can state respecting the conditions prevailing in the Chicago area that necessarily will make the sales to Illinois Bell for the Chicago area different from sales to the Illinois Bell System as a whole.

The data in this exhibit, X-313, relating to Illinois Bell, includes the entire company, they are not limited to the Chicago area.

As I testified a few minutes ago, the Chicago area uses and purchases no step-by-step automatic equipment. It purchases practically no magneto equipment. It purchases an unusually large percentage of coin boxes, because the coin box development in Chicago is very much higher than in any other city in the country. There are several types of

5704 common battery switchboard that are not used in the

Chicago area, and are not purchased for that area.

I have prepared a table to show the percentage of sales of each of a number of important telephone plant items of the Western Electric Company's manufacture, relating to quantities sold to the Illinois Bell Telephone Company and to the Bell System separately for the years 1924 to 1930, both inclusive, and adjusted to a total of 100 per cent for each year, for the purpose of making a direct comparison of the cross-section of quantities sold to the Bell System, and the quantities sold to the Illinois Bell Telephone Company during each of the years. It is this exhibit marked Defendants' Exhibit X-314, entitled "Illinois Bell Tel. Co.—Chicago Rate Case—Percentages Charts—Representing Cross Section of Purchases from Western Electric Company—Illinois Bell—Bell System—Period 1924-1930." This exhibit consists of a sheet showing a list of percentages for each year 1924 to 1930, and for the entire period for each of the items shown on sheet 1 of Exhibit X-313. The percentages are an
5705 adjustment of the percentages shown for the same items on sheet 2 of Exhibit X-313. The adjustment made was one to bring the total of the percentages for each year to 100 per cent, it being easier by that method to make comparisons of one year with another.

Comparisons can be made by an examination of the percentages shown on sheet 2 of Exhibit X-313, but they are better made if the percentages are all reduced to the same base, and this is done on the sheet of Exhibit X-314. I will describe exactly how this was done.

Referring to sheet 2 of Exhibit X-313, I found the total of the percentages for each year, and then I divided the percentage for each item in each year by the total percentages for the year, thus reducing the entire list of percentages to a base in which the total for each year is 100 per cent. The total of the list of percentages for each year on Exhibit X-314 is 100 per cent. The totals of the percentages on sheet 2 of Exhibit X-313, will vary from year to year, depending upon the proportionate amount of purchases by the Illinois Bell as compared with sales to the entire Bell System.

5706 To better visualize the percentages shown on the table in Exhibit X-314, I have plotted them in the form of a graph shown on the blue print in this exhibit. I did this so as to get a better representation of the cross-section

of the sales to Illinois Bell in each year as compared with the cross section of total sales for the period, and of all of those as compared with the total sales to the Bell System. On this graph, the vertical line at the left is the per cents, going to 100 per cent for each vertical line. The next line designated at the bottom as "1924 to 1930, Bell System" is a group of per cents, one for each of the seventeen items, each item having the same per cent.

In the next vertical line designated "1924" at the bottom of the chart are shown the percentages taken directly from 1924 in the table of this exhibit, and those percentages represent the relation of sales to Illinois Bell to sales to Bell System during the year, reduced to 100 per cent, for the sake of comparability.

5707 The sales to Illinois Bell for each of the years 1924 to 1930, and for the period 1924 to 1930, are represented by the spaces between the lines. The figure 50 at the left is a percentage figure going to a total of 100 at the top, and that per cent represents all of the sales to Bell System, if you are looking at the first line, the first column, or first vertical line. That 100 per cent represents all of the sales to Illinois Bell in 1924 if you look at the next line, next vertical line, and all of the sales in 1925, if you look at the next vertical line.

5708 The space between the line below the figure 15 and above the figure 15, the third one from the top in the first column at the left hand side of the sheet—the figure representing item 15 in the succeeding table of figures—represents the percentage of total sales to Bell System of that item during the period. I am speaking now of the first vertical line.

5709 That per cent is the per cent that we get by dividing 100 by seventeen. There are seventeen items. We are taking the total sales of each item for the period as being 100 per cent of that item.

I think, perhaps, item 1 will be a little bit easier to follow. Item 1, at the bottom of the page, that is the space from the bottom or 0 line to the place where the curve intersects the vertical line, designated as 1924 to 1930, Bell System, the base is 1/17 of 100 per cent, about 7 per cent. Now, going to the year 1924, we find that the line rises, and is about 8½ per cent. Now, if you refer to the succeeding table,

item 1, "Large multiple sections," you will find it is
5710 8.3 per cent.

Now, going to the next year, 1925, for the same item, 1, we find it is about 9½ per cent from the chart or graph. We refer to the table, and we find it is exactly 9.8 per cent. Of course, it is not possible to plot these percentages as close as they have been computed in the table. Then going to 1926, it falls to a little over 4 per cent, and a reference to the table shows that it is 4.2 per cent. The graph is made to show relatively for each of the years the proportionate amount of sales to the Illinois Bell of each of these seventeen items, all reduced to 100 per cent for the sake of easy and proper comparability.

If we take the percentages from which these come, those shown on sheet 2 of Exhibit X-313, we would get a graph that would be very difficult to interpret, because the purchases of the Illinois Bell in one year will be considerably more than in another year, and you would have for
5711 1924, let us say, totals that would go to 125, for 1925 that would go to 155, and not readily be compared. Now, reducing them all to a 100 per cent basis, it is possible then to make ready and proper comparisons, and that is what we have done in the chart.

Take line 2, "Small multiple sections," for the year 1924—on the table of percentages we find that the Illinois Bell purchased 9.1 per cent, which is a figure to be found on sheet 2 of Exhibit X-313, reduced with all of the other figures of that year to a 100 per cent base. Now, 9.1 per cent being the percentage in 1924 for item 2, the small multiple sections, is the difference in level between the lower curve and the curve above it, that is, the lines on both sides of item 2 are 9.1 per cent apart.

5712 If we take the percentages as shown on sheet 2 of Exhibit X-313, and plot them in a graph, we will find considerable variations in the totals, due to the fact that the purchases in one year, as compared with another, vary considerably. Now, what we have done in the graph in Exhibit X-314 has been to stretch out or shorten those lists of percentages, those columns of percentages, so that they in each case aggregate 100 per cent. It is merely to show the relative proportions of each item purchased in each year, not the actual proportions. The actual proportions would

be obtained by the percentages in sheet 2 of Exhibit X-313.

5713 Item 17 is put between 90 and 100 just because we started with number 1 at the bottom, and went up serially to the top. The figure 100 means 100 per cent of the sales to the Illinois Bell in any one of these years, it is all of the sales. I could have made the exhibit just as well if I had put 17 at the bottom, and 1 at the top, or had mixed them up any way, they would show the variation in cross-section of one year against another equally well; it doesn't make a particle of difference.

We set out to make a graph in which we represent, in respect to each of these seventeen items, the percentage sold to the Illinois Bell in relation to the sales of the same item to the associate companies of the system. If we take

5714 these previous tables, and from them take for illustration the year 1924, and mark step by step, on a vertical line, the percentage, we will find that in 1924, we have a certain per cent, then for 1925 we add all of those items, and we come out with another per cent, and so on. Now, what I have done is to reduce each of those years to a 100 per cent basis, so that each of these columns begins at the same line at the bottom, and ends at the same line at the top. These figures at the left, 10, 20, and so forth, in multiples of 10 up to 100 represent that percentage after the reduction has been made to the common 100 per cent throughout the years.

5716 In 1924, because the lines above and below item 3 come together, we know that there were no sales during that year. The same observation applies to item 4, there were no sales of that item in 1924. Now, in 1925 there were considerable sales of each item, you trace them through, represented by those percentages.

5717 In the vertical line farthest to the right, which represents the Illinois Bell Telephone Company sales of item 1 for the period 1924 to 1930, it rises to about 8 per cent. The total Bell System for the same period, over at the left, is about 6 or 7 per cent, as a percentage of all Bell System sales in that year. These do not represent Bell System sales in dollars or items. They represent them in per cents. That is only a comparison for the sake of uniformity. The only thing is to illustrate the relative uni-

formity, or lack of uniformity of sales to Bell System of one year against the other, or of total sales to Illinois
5718 Bell in the period against total Bell System sales. It simply is to show uniformity or lack of uniformity and is not intended to show in total amount either of items or dollars.

The per cents shown represent per cents of items, that is true in sheet 2 of Exhibit X-313, and it is equally true in the sheet in Exhibit X-314, and in the chart—they are per cents of items. In Exhibit X-313 they are the actual per cent of total sales for each item. In Exhibit X-314 they have all been reduced to a comparable 100 per cent basis, simply to show readily the variations from year to year.

I have prepared an exhibit to show for each year during a period of years the per cent of Western Electric Company manufactures sold to its Bell customers, that the Western Electric sold to the Illinois Bell Telephone Company. It is Exhibit X-315, entitled "Illinois Bell Telephone Company —Chicago Telephone Rate Case—Western Electric Co. Manufactures—Sales to All Bell Companies and to Illinois Bell Telephone Company, 1916-1930."

The last column on this Exhibit X-315 shows percentages representing the per cent which the sales of Western Electric Co. manufactures to Illinois Bell in each year, are of the sales to the Bell System. These data were taken from a table furnished to us by the company. Here I have presented this matter in dollars.

5720 Exhibit X-315-A is entitled "Illinois Bell Telephone Company—Chicago Telephone Rate Case—Western Electric Co. Manufactures—Sales to Bell Customers and to Ohio Bell Telephone Company, 1922-1930."

5721 The figures in the columns on Exhibit X-315-A, in the column entitled "Bell Customers" and the one entitled "Ohio Bell" were obtained from the company. They represent the total sales in each of the years 1924 to 1930 inclusive of Western Electric Company manufactures to Bell System or Bell customers, and to the Ohio Bell. In the last column on this exhibit I show percentages, which are the per cents which the sales to the Ohio Bell are to the total Bell customers sales, in each of the years. These, for example, range from 2.13 per cent in 1922 to a maximum during the period of 5.32 per cent in 1926. These are per cents of dol-

lar sales as found in the data furnished to us by each company. The table of figures furnished to us includes the note A at the bottom of this exhibit.

5722 Exhibit X-316 is entitled "Illinois Bell Telephone Co. —Chicago Telephone Rate Case—Western Electric Company Manufactures, 1922-1930, Sales to Ill. Bell and to Ohio Bell as Per Cent of Total Sales to Bell Customers."

The percentage shown in the columns "% Illinois Bell," and "% Ohio Bell" of Exhibit X-316 are taken directly from the Exhibits X-315, and X-315-A. Referring to these percentages on Exhibit X316, we see, for example, that for the year 1925 the Illinois Bell Sales were 8.87 per cent of total Bell customer sales, whereas, the Ohio Bell sales were 4.08. And then referring to 1927, the Illinois Bell sales were 9.93, the Ohio Bell sales, 3.51, and so on. Now, for the purpose of making more ready comparisons, I have, in the last two columns on this table, computed percentages for the Illinois Bell and for the Ohio Bell, which are stated in terms of the average per cent for the period. To illustrate, referring now to the first column of percentages, "% Illinois Bell" we find that at the bottom of the column the average per cent for the period was 7.53, which means that during this period

1922 to 1930, inclusive, the sales to Illinois Bell were

5723 7.53 per cent of total sales to Bell customers.

Now, taking that per cent as 100 per cent, I have in the next to the last column of figures computed each of the per cents in the column entitled "% Illinois Bell," for example, 7.19, which is the per cent of sales in the year 1922 to Illinois Bell of total sales to Bell customers, was, referring to the next to the last column, 95 per cent of the average of the sales to the Illinois Bell during the entire period.

The next year, 1923, the 5.66 per cent found in the first column of percentages is 75 per cent of the average, as shown in the next to the last column of percentages. Now, by a reference to the last two columns of percentages, one entitled "Illinois" and the other "Ohio," we find that on a comparative basis in 1922, Illinois was 95, Ohio, 56.

In 1925, Illinois was 118, Ohio, 108, and so on. The per cents themselves in the first and second columns of percentages could be directly compared; or the computations shown in the last two columns will serve the same purpose, which

is to show the lack of uniformity of sales from year
5724 to year to the Illinois and to the Ohio Bell.

In 1925, the sales to Illinois Bell were relatively higher than the sales to the Ohio Bell, whereas in 1926, the reverse was true. In 1927, there was a turn in the other direction, the Illinois Bell running higher. If each company had purchased the same representative cross-section of Western Electric sales to Bell customers, there would have been a consistency in the percentages. They would increase and decrease in a consistent and comparable manner.

In Defendants' Exhibit X-317, entitled "Illinois Bell Tel. Co.—Chicago Rate Case—Analysis of Estimated Quantities of Materials of Various Classes for each Associated Company to be delivered by Western Electric Co.—From Provisional Estimates, Period 1922-1932," I show a number of tables of percentages representing the estimated sales to each of the associated Bell Companies during certain periods from 1922 to 1932, and for the entire period. The data from which the percentages in the Exhibit X-317 were computed were all obtained from the provisional estimates of the company, which Mr. Thompson offered in court as being documents furnished to the Western Electric Company as
5725 representing the quantities of materials and equipment required by the associated companies. I found, in the provisional estimates recently furnished for my inspection, data to show the estimated quantities of new material required to be delivered to each of the asociated companies of the Bell System. I found it in statement G in the provisional estimate for each company. This statement shows the estimated quantities of new materials required to be delivered during the following year. Statement G generally consists of two sheets, the items being designated on twenty-eight lines, this being the case in the provisional estimate of 1923. Taking statement G for the year 1923 as an example, the provisional estimate includes 11 switchboard items, these being, on line 1, the number 1 relay switchboard; on line 2 the number 9 relay switchboard; on line 3 the number 10 relay switchboard; on line 4, the number 1-D relay switchboard; on line 5, other central office boards, the type
5726 to be specified; on line 6, number 4—640 multiple PBX and the 600-C type; line 7, the 604 multiple PBX; line 8, other multiple PBX's, the type to be specified; line 9,

the number 4 toll test boards; line 10, the number 4 Morse test boards; line 11, 700 type semi-mechanical PBX's, by number of lines.

It also lists nine items for private branch exchange switch boards and subscriber's station sets, these being as follows:

On line 12 is the 30 line number 550 boards; line 13, the 80 line 550 boards; line 14, sizes over 80 lines; line 15, cordless boards; line 16, sub-sets and bell boxes, machine switching; line 17, sub sets and bell boxes, manual; line 18, desk stands, machine switching; line 19, desk stands, manual; line 20, number 50 coin collectors;

It also lists three types of lead covered cable, these being as follows: Line 21, number 16 and heavier; line 22, number 19; line 23, number 22; line 24, number 24.

It also lists four items of miscellaneous equipment, these being indicated as follows in the provisional estimate; line
25, cable terminals, type B and then on the same line
5727 they show vacuum tubes. Line 26, cable terminal type
8, and on the same line they show telephone repeater sets. Line 27, cable terminals, number 14, and on the same line they show loading coils. Line 28, distributing frame wire in conductor feet. Then, on sheet 2 of this part of the provisional estimates are listed poles and line material as 16 separate items, these being as follows: Line 1 twenty-two feet long, or less; line 2, twenty-five feet long; line 3, thirty feet long; line 4, thirty-five feet long; line 5, forty feet long; line 6, forty-five feet long; line 7, fifty feet long; line 8, fifty-five feet long; line 9, bare copper wire in pounds; line 10, galvanized iron wire in pounds; line 11, strand in feet; and line 12, insulated wire, insulated wire included numbers 14, 17, 18 and 19 in conductor feet. Line 13, conduit clay in duct feet; line 14, conduit wood, in duct feet; line 15, cross arms, fir; line 16, cross-arms, pine.

The foregoing data in regard to poles are furnished for the Class A, Class B, Class C and Class D poles separately, and these, again, are divided between chestnut, cedar and creosoted pine.

5728 This study of the provisional estimates, X-317, covers the period from 1922 to 1932, inclusive. I have summarized the data in this exhibit which consists of eleven sheets.

The first sheet is a summary of the estimated requirements for the entire period of eleven years, that is, 1922 to 1932, inclusive. The second and third sheets are a summary of the years 1922 to 1924, inclusive.

The fourth and fifth sheets are for the year 1925. The sixth and seventh sheets are for the period 1926 to 1928, inclusive. The eighth and ninth sheets are for the year 1929, and the tenth and eleventh sheets are for the years 1930 to 1932, inclusive.

The reason for summarizing these particular periods has been that the American Telephone & Telegraph Company requirements have differed from time to time, as respects the grouping of equipment and material items in the different periods.

5729 For the period 1922 to 1924, the provisional estimates show 62 different items upon which percentages could be computed. In 1925, there were forty-six items. In the period 1926 to 1928, there were fifty-three items. In 1929 there were forty-two items, and in the period, 1930 to 1933, there were forty-four items. In combining the data on the first sheet for the entire eleven year period from 1922 to 1932, inclusive, it was necessary to re-group the items and reduce the total number to thirty-two.

In my opinion, based upon these exhibits, there are very wide differences in the requirements as set out in these provisional estimates, showing that the requirements of one company will differ greatly from those of another company in different periods, and the requirements of the same company in different periods will also vary greatly.

5730 For the estimated requirements of a particular company to be a representative cross-section of the total Bell System estimated requirements, the percentages of estimated requirements of the company should be the same or practically the same for all items.

To illustrate: A company whose estimated requirements are 10 per cent of the total Bell System estimated requirements should have estimated requirements of 10 per cent for each item if its requirements are to be a representative cross-section of the total Bell System requirements.

The per cents of estimated requirements of the Illinois Bell Telephone Company for the period 1922 to 1932, both inclusive (of the different items), vary all the way from .2

for submarine taped and buried cable to 21.7 for coin
5731 collectors. I call attention to the fact that the percentage of step-by-step lines, which is 2.9 for the Illinois Bell Company as a whole, would be zero, or practically zero, for the Chicago area.

There are practically as wide variations for the other companies, as, for example, the estimated requirements of the New England Telephone & Telegraph Company for the period varied from .9 for carrier telegraph systems to 28.3 per cent for the numbers 700, 701, 740 and 750 types of PBX's, which were by the Company grouped.

I have adjusted the percentages of estimated requirements for each company for the period 1922 to 1932, both inclusive, those shown on the first page of this exhibit, for the purpose of making a better comparison of the cross-section of estimated requirements of each company, with every other company. I did that by assuming that the total of the percentages of estimated requirements for each company equals 100 per cent, and then by computing the percentage figure of each item as a per cent of the total percentages. It is the same sort of a computation as has been made in the
5732 chart in Exhibit X-314, representing actual sales to the Illinois Bell Telephone Company.

I have prepared a table to show these percentages. It is Defendants' Exhibit X-318, entitled "Illinois Bell Tel. Co.—Chicago Rate Case—Percentages Charts—Representing Cross Section Estimated Quantities of Materials to be Delivered by Western Electric Company to each Associated Company—From Provisional Estimates Period 1922-1932," consisting of a table of percentages, and a chart. The table of percentages is one showing thirty-two different items of Western Electric Company manufacture. Each of the columns in this table represents an Associated Bell Company. The percentages in these columns for each of the Associated Bell Companies have been adjusted to total 100 per cent for each column. The percentages are taken, or are computed from percentages for like items shown in the first sheet of Exhibit X-317.

5733 I would like now to compare the percentages on the first sheet on Exhibit X-317, with the percentages shown in the table in X-318. The total of percentages in each column in the first sheet of Exhibit X-317 will vary in one com-

pany as compared with another, because of the relative volume of sales. The second and third columns will illustrate the point. The second column is the Southern New England Telephone & Telegraph Company, one of the smallest of the Bell Associated Companies. The third column is the New York Telephone Company, which is the largest Bell Associated Company. The percentages for each of the various items will generally be substantially higher for the New York Telephone Company, because of its size, than for the Southern New England Telephone & Telegraph Company.

To illustrate, the first item, line 1, "Manual, Large Multiple Sections," we find that the Southern New England Telephone & Telegraph Company estimated requirements for the period 1922 to 1932, inclusive, were 1.8 per cent of the

total requirements of the Bell System for the period,
5734 whereas, the New York Telephone Company, as shown

in the third column, estimated requirements were 19.9 per cent.

Now, it is clear that if we added the percentages of the second and third columns, we would find a much larger to for the New York Telephone Company than for the Southern New England Telephone & Telegraph Company. We could plot those percentages in a graph, following the same system that I have followed in Exhibit X-314, but we would have curves that would be very widely distorted, so that comparisons of the cross-section of requirements of one company with another could not readily be made by inspection, and so, in order to make such comparisons, I reduced the percentages—or, adjusted the percentages of the Southern New England Telephone & Telegraph Company and of th New York Telephone Company so that in each case they would total to 100 per cent, but in each case would be relatively the same as shown on this first page of Exhibit X-317.

Now, in making that adjustment to a total of 100 per
5735 cent for comparative purposes, the 1.8 per cent of item

1 for the Southern New England Telephone & Telegraph Company in Exhibit X-317 is adjusted to 3.4 per cent in Exhibit X-318.

You read through the same way on that horizontal column, switchboard No. 1 manual, large multiple sections, in respect to the other companies indicated at the tops of the various columns.

5736 For another illustration take item 5, the panel machine switching, number of lines, and referring to Exhibit X-317, I find that the Southern New England Telephone & Telegraph Company per cent of total sales is zero.

Referring to item 5 on Exhibit X-318, it is still blank, because in the adjustment there is no change in the zero, but if we take the same item for the New York Telephone Company in Exhibit X-317, which is 39 per cent, we adjust it to 7.3 per cent in Exhibit X-318.

The percentages for any company in Exhibit X-318 have relatively the same differences from one item to another, as they do for the same company in Exhibit X-317, and it is the relative amount of sales of the different items that we are interested in.

So the two tables of percentages show exactly the same picture, so far as the relative amount of sales of one item as compared with another, only the percentages are different, one is a better picture than the other, that is the only difference.

5737 Referring to Exhibit X-317, item 7, the step-by-step number of lines, reading across the page, I find the New England Telephone & Telegraph Company, during the period, had estimated requirements that were 5.3 per cent of the total estimated requirements of the Bell System.

The Southern New England Telephone & Telegraph Company had 7.8 per cent, notwithstanding the fact that it w a very small company.

The New York Telephone Company, the largest one in the Bell System, had 9.6 per cent. The Bell of Pennsylvania 7.4. The Chesapeake & Potomac Company, 4.4 per cent. The Southern Bell Telephone & Telegraph Company, 11.1 per cent. The Ohio Bell Telephone Company, 8.6 per cent. The Cincinnati & Suburban Telephone & Telegraph Company, none. The Michigan Bell Telephone Company, 5.3 per cent. The Indiana Bell Telephone Company, 1.5 per cent. The Illinois Bell Telephone Company, 2.9 per cent, and none in Chicago.

The Wisconsin Telephone Company, .6 per cent; the Northwestern Bell Telephone Company, 3 per cent; the Southwestern Bell Telephone Company, 11.1 per cent;

5738 the Mountain States Telephone & Telegraph Company, 3.6 per cent; the Pacific Telephone & Telegraph Com-

pany, 15.8 per cent.

And the American Telephone & Telegraph Company Long Lines, which we have set up as though it were an Associated Company, none.

As I testified, the percentages in the table in Exhibit X-318 are the percentages on the first sheet of Exhibit X-317 adjusted to totals of 100 per cent for each Associated Company, the percentages being relatively alike for each company in each exhibit.

On the chart, in Exhibit X-318, I have plotted the percentages shown in the table of that exhibit. Each percentage for an item in the table of percentages is a space between the lines in the chart.

Each vertical line in the chart represents a company. The vertical line at the left designated as "Bell System" repre-
sents the total requirements of all Associated Com-
5739 panies of the Bell System for this entire period of eleven years, and for each item is 100 per cent divided by the thirty-two items, just a little over 3 per cent. They are equal divisions. At the extreme right is shown the American Telephone & Telegraph Company long lines.

Where the lines converge to a common point and join for the Long Lines and for any of the other companies, it means that there are no requirements for the particular items involved. Where they converge and nearly join, it means that the percentage of requirements has become very small.

The table at the right of the graph shows the code of the chart. Lest one would not know the meaning of the letters
to designate companies, the code will show it.
5740 For example, under "Company Code" at the right we have Bell System, which is all Associated Companies and the Long Lines. "Ill. B. T." is Illinois Bell Telephone Company and so on.

Then, below that list of companies is the list of thirty-two items. They are numbered on the chart and in the code, each number shows what the item is. For example, the first item is "Manual, Large Multiple Sections, Item 1."

I am familiar with the practice, among the Associated Bell Companies, of making estimates of their probable purchases from Western Electric Company. They are prepared

in the fall of every year.

5741 They are called the provisional estimates. [illegible] usually made up to show the estimated requirements for the following year, and for from two to four succeeding years. The particular estimates that we used were prepared for the Western Electric Company, that that company might schedule its manufacturing program and purchases for the Associated Bell Companies.

I have prepared an Exhibit, X-319, "Illinois Bell Tel. —Chicago Rate Case. Analysis of Estimated Quantities Materials—Panel Central Office Equipment Step-By-S Lines Private Branch Exchanges. To be delivered by W ern Electric Co. to each Associated Co. from Provisional E timates Period 1932-1934," showing estimated quantities new materials required to be delivered to each of the Asso ciated Bell Companies for the years 1932 to 1934, inclusive.

The estimates were obtained from a summary of state-

5742 ment E of the 1932 provisional estimates furnished to me by the Company. This exhibit, X-319, is made to show the amount of estimated requirements for each one of the Associated Companies as found in the data furnished us by the Company. This particular summary, from Statement E, related to panel central office equipment, step-by-step central office equipment, and certain private branch exchanges.

The percentages shown in Defendants' Exhibit, X-319, are for each Associated Telephone Company, the per cent of its requirements for each of the years of the type of equipment indicated by the table.

For example, on sheet 1 of this exhibit, you find panel central office equipment divided into two groups of lines for the years 1932, 1933 and 1934. The first of the two groups is lines, the second is frames. In the first column of figures labeled "Amount" are shown the numbers

5743 panel central office equipment lines estimated for the year 1932 for each one of the Associated Bell Companies, the requirements of the New England Telephone & Telegraph Company being 31,320 lines.

Those of the Southern New England Telephone Company being none. Those of the New York Telephone Company being 185,890 lines.

Now, the per cent in the second column for the year 1932

for the New England Telephone & Telegraph Company, 7.3 per cent which its estimated requirements of 31,3 are of the total Bell System requirements of 425,7 lines, which is the total of the first column of figures as shown at the bottom of the column.

In a similar way the percentages were computed to show the estimated requirements of each one of the Associated companies in the terms of the total requirements of the Bell System. I would just like to point out that the estimated requirements of Panel Central Office Equipment, 1944 were, for 1932, zero for the Southern New England Telephone & Telegraph Company, the Diamond State Telephone Company, for the Chesapeake & Potomac Telephone Company of Baltimore City, for the Chesapeake & Potomac Telephone Company of Virginia, for the Chesapeake & Potomac Company of West Virginia, for the South Central Telephone & Telegraph Company, for the Indiana Bell Telephone Company, for the Northwestern Bell Telephone Company, and for the Mountain States Telephone & Telegraph Company.

There is a wide variation in the estimated requirements of this type of equipment, as between the different companies, and as between different years. There are also similar variations for the step by step lines, as shown on the second sheet of this exhibit, and for the private branch exchange lines as shown on the third page of the exhibit.

Among the more important factors affecting depreciation of telephone property are the factor of growth in the number of subscribers and lines, the amount of telephone plant of each class, and in the use of telephone service. These growth factors lead to inadequacy, and affect the service life of most of the classes of telephone property, but principally the central office buildings, central office equipments and outside plant.

Company policy is also an important factor resulting in the early retirement of property by one company, and its extended use by another company. Obsolescense, public requirements, climatic conditions, are also factors affecting service life and depreciation rates.

To determine the comparability of conditions in one company as compared with another company, respecting depre-

ciation, I would wish to know about the relative rate of growth and change in the stations and lines and plant of various classes. I would want to know about any dial program, the extension of the automatic, or the program for converting other systems to automatic.

5746 I would want to know of any programs for the conversion of magneto systems to common battery or automatic. I would want to know about the company's maintenance standards, and its policies and practices as to the retirement of plant.

I would want to know something about the company's policies and practice in regard to the purchase of going plants, and something about the amount of purchased going plant that the company was maintaining. I would want to know something about the public requirements as to the removal of wires from the streets and alleys, or from aerial to underground in one company as compared with another.

I would want to investigate the climatic conditions, such as sleet, windstorms, lightning, soil conditions, humidity, temperature, salt air, and so forth. I would want to investigate any tendencies in the calling rates, or the subscribers using the telephone more or less. I would want to know of changes and prospective changes in rate structures involving changes in party lines, and so forth.

5747 I would want to know something of improvements or changes in operating methods, as, for example, the adoption of straight-forward trunking, forcing the earlier retirement of some plant, and postponing the retirement of other plant; of changes from ticketing to registering measured service calls; of the use of ancillary jacks; I would want to know something of the type of plant, the outside plant, whether the poles were chestnut, or ledge poles, or cedar, or whether they were treated or untreated, or butt treated; whether they were full creosoted Southern Pine, whether the company's aerial wire was bare copper or bare iron or covered wire.

The practice is different in different companies. I would want to know something about the probable change in growth, whether the rate of growth is going to be increased, or is going to slow down. If it slows down, it usually would result in postponing retirements and in extending the service life

of such classes of plant as central offices, buildings, cable.

I would want to know something of the actual distribution of growth in the area served by an exchange as com-
5748 pared with the expected distribution of growth for which the plant facilities had been provided, the moving about and shifting of population, renters versus home-owners, the proportionate amount of rural plant, some companies have very little if any rural lines, and other companies have a considerable amount of that kind of plant.

I would want to know something of the growth of the depreciation reserve under the rates that have been used. I would want to know about changes in service, as for example, from coin box to measured service, that is something that has been going on in Chicago in recent years; changes from wall and desk sets to hand sets. I would want to know something of the company's policy in regard to piecemeal retirements or wholesale retirements as affecting the cost of removal and the salvage.

I would want to know something of the company's policy in respect to re-using old plant.

Then I would want to know about the business conditions affecting growth and change and prices.

(June 23, 1932)

5750 The material analyzed in both Exhibits X-318 and X-317 was obtained from the sections of the provisional estimates furnished to Mr. Goldstein several weeks ago
5751 as representing the estimated quantities of telephone apparatus, lead covered cable and supplies of each of the Bell Companies, as incorporated in the provisional estimate that is sent to the Western Electric Company for its manufacturing purposes, or program.

(Counsel for defendants states that they are the provisional estimates furnished by the Western Electric Company, and brought in by Mr. Thompson, counsel for the plaintiff, May 13, 1932).

The data summarized in Exhibit X-313 on the first sheet, were furnished to Mr. Goldstein by the Company. This first sheet is an exact copy of the table furnished to Mr. Goldstein.

The data on the second sheet of this exhibit showing the quantities sold to the Illinois Bell Telephone Company and to the total Bell System by years, were furnished to me by Mr. Wright, of the Western Electric Company, and the sheet is an exact copy of the table furnished by Mr. Wright.

5752 (Counsel for defendants states that, subject to check, the first two sheets of that exhibit are the figures to which Mr. Gregory referred on his cross-examination on March 16, 1932.)

I have examined provisional estimates of the Associated Bell Companies that were made available to the defendants a few days ago to the extent that has been possible in the time.

They cover the period from 1923 to 1931, both inclusive, the 1931 provisional estimates, including also figures for the years 1932, 1933 and 1934.

These first became available to me on Saturday, June 4th, of this year. (Testifying June 23, 1932).

5753 There are 16 large volumes of tables, of statistics, reports and letters, comprising somewhere between 8,000 and 10,000 pages. I did not count the pages, but there are something like that number.

From the examination, such as I have made, these provisional estimates in my opinion contain a great deal of material that bears on the question of comparability or lack of comparability of conditions in one company as compared with another company, respecting depreciation.

In the provisional estimates, is to be found a considerable amount of data relating to the actual experience of the company, and other data representing the Companies' forecast for a period of years in the future. Specifically the data which are necessary in determining the matter of com-

5754 parability or lack of comparability as between companies, respecting depreciation, are of this character: to illustrate, Statement A, in the 1923 Provisional Estimate furnishes the following information. The information represents the Companies' actual exeprience for the years 1918 to 1922, inclusive, and the Companies' estimate for the years 1923 to 1927, inclusive.

The data are furnished for each of the companies, in the Bell System.

These data found on Statement A, relate to the following items: Line 1, Gross Connects. Line 2, Gross disconnects. Line 3, Per cent Disconnects to Total in Service January 1. Line 4, Net Station Gain. Line 5, Per Cent Gain to Total Stations January 1. Line 6, Net Station Gain by Purchases, Sales or Transfers. Line 7, Total Stations at End of Year. Line 9, Per Cent Increase over Previous Year. Line 10, Average Number of Stations Operated from Machine
5755 Switching Central Offices. Line 11, Gross Additions to Plant. Line 12, Net Additions to Plant. Line 13, Net Additions to Plant Per Station Gain. Line 14, Net Additions to Plant by Purchases, Sales or Transfers. Line 15, Total Plant at End of Year. Line 16, Per Cent Increase over End of Previous Year. Line 17, Total Plant Per Station. Line 32, Depreciation, Per Cent to Average Plant in Service Line 34, Per Cent Reserve for Depreciation to Total Plant in Service and General Equipment.

The data referred to are necessary to show the rate of growth in stations and plant, and the relation of plant growth to station growth. The data also show the amount of going properties purchased or sold, or expected to be purchased or sold.

It also shows the composite depreciation rates actually used, and those that the company planned to be used in future years, and also the growth and the estimated growth of depreciation reserve at these rates.

I also found on Statement C in the Provisional Estimate, the following data in respect to the estimated plant expendi-
tures for each class of plant, the data including the
5766 following types of information for each of the classes of plant that are later mentioned; the gross additions; the original cost of plant displaced, including gross wiring loss, per cent plant displaced to average total plant, the net additions to property accounts, salvage on plant displaced, including gross wiring gain, the cost of removing plant displaced, the net charges to reserve for accrued depreciation, including net wiring loss.

Now, the foregoing data are given in Statement C, for each of the following classes of plant: on Line 1, Right-of-Way Account 207. On Line 2, Land & Buildings Accounts 211 and 212. Line 3, Central Office Equipment, Manual, Accounts

221 and 222. Line 4, Central Office Equipment, Machine Switching, Account 221; includes all Central Office Equipment, Telephone Equipment, in Office Primarily Machine Switching. Line 5, Total Central Office Equipment, Account 220. Line 6, Station Equipment, Manual, Accounts 231 to 235. Line 7, Station Equipment Machine Switching, Accounts 231, 232 and 234. Line 8, Total Station Equipment, Account 230. Line 9, Exchange Pole Lines, Account 241. Line
5757 10, Exchange Aerial Cable, Account 242. Line 11, Exchange Aerial Wire, Account 243. Line 12, Exchange Underground Conduit, Account 244. Line 13, Exchange Underground and Submarine Cable, Accounts 245 and 246. Line 14, Total Exchange Lines. Line 15, Toll Pole Lines, Account 251. Line 16, Toll Aerial Cable, Account 252. Line 17, Toll Aerial Wire, Account 253. Line 18, Toll Underground Conduit Account 254. Line 19, Toll Underground and Submarine Cable, Accounts 255 and 256. Line 20, Total Toll Lines. Line 21, Total. Line 22, Interest During Construction, Account 268. Line 23, Total Plant. Line 24, General Equipment, Account 260.

Now, in addition to the foregoing, all of which data are necessary to show the anticipated growth and change in each class and the rate at which plant is to be retired and the amount of charges against the depreciation reserve, the following data are to be found in Statement C, and are necessary for the study of depreciation. There are estimates of the extraordinary repairs, gross, the gross less salvage, the total net extraordinary repairs, deduction for net wiring loss
5758 charged to Account 607, total net charges to reserve for accrued depreciation, Accounts 102 and 103, gross wiring gain included in Column D and H.

All of the foregoing data on Statement C for the year 1923, this being the 1923 Provisional Estimate, are also estimated in this Provisional Estimate for the years 1924, 1925, 1926, and 1927, separately.

There is a statement for each of the Associated Companies with respect to these items.

They are estimates for 1923, 1924, 1925, 1926 and 1927.

I encountered other data in these Provisional Estimates which in my opinion are necessary or useful in determining the comparability or lack of comparability of operating con-

ditions of the various companies of the Bell System in respect to depreciation.

There is a very large amount of additional data, other data, necessary for such determination. These are included in the letters of transmittal of the Provisional Estimates of each of the various Associated Bell Telephone Companies.

5759 There are to be found in the reports, studies on the Company's condition, or business and economic conditions of the past and anticipated for the future; in the schedules and charts submitted with the Provisional Estimates. They also include reports on studies of depreciation made by some of the Companies.

There are outlines of construction program, designating the character and extent of the various classes of plant actually added or retired, or to be added or retired, and the reasons therefor; there are programs for the extension of either the panel-type automatic or the step-by-step automatic, these being designated generally Dial System Panel-Type, or Dial System Step-by-Step; reports and programs of anticipated conversion of common battery systems to dial systems, of magneto systems to common battery systems, or to dial systems; statements and data reflecting the Companies' policy and practice in respect to the degree of maintenance, and the probable effect of the maintenance on depreciation, and other similar reports, studies and data.

5760 I have selected for presentation in my testimony a number of illustrations of the type of data and reports to be found in the Provisional Estimates that in my opinion are necessary in arriving at a determination of comparability, or lack of comparability of conditions in the Companies respecting depreciation. I find that there is a reference in the Provisional Estimate of the Bell Telephone Company of Pennsylvania for the year 1925, I read an excerpt from the letter of transmittal, dated November 14, 1924, from Mr. J. H. Kinnard, President, Bell Telephone Company of Pennsylvania, to Mr. W. S. Gifford, Executive Vice President
5761 of the American Telephone & Telegraph Company.

I quote a portion of the letter as follows:

"In the construction program and in the estimates of maintenance costs, no changes in material prices have been as

sumed, except a reduction of about 25 per cent of the 1924 prices on panel-type machine switching equipment."

Then there is a paragraph entitled "Depreciation."

"The rate of depreciation will be about 4.7 per cent of the average plant in service for the entire 5 year period. This assumes the adoption by the Board of Directors of modified rates for certain items in plant as described in my letter of November 5, 1924, to Vice-President Gherardi, in which he and Mr. Heiss have concurred. It is our opinion that certain other changes should be made beginning with January 1, 1925, which have not yet been taken into account, however, in making up the provisional estimate, for the reason that we have not as yet submitted them for the concurrence of your organization, and have believed they would require careful consideration.

"The principal change which we shall propose is a
5762 reduction in the rate of depreciation from 6 per cent to 5 per cent on machine switching equipment. This proposed rate is equivalent to that which would obtain if the equipment had a 20 year life and no salvage. We believe this would be a very conservative assumption, and if so, we think it makes it very desirable to adopt the lower rate as a maximum. If we adopted such a rate, it would substantially improve the net results of operation throughout the entire 5 year period, particularly in the latter part of the period."

5763 As bearing directly on the comparability of depreciation rates, I found in a letter from Mr. Kinnard, President of the Bell Telephone Company of Pennsylvania, to Mr. Thayer, President of the American Telephone & Telegraph Company, dated November 27, 1922, relating to the Provisional Estimate of the Bell of Pennsylvania for 1923, the following:

"The rate of depreciation has been assumed to be the present rate, 5.2 per cent. In our letter to Mr. Gherardi, dated May 27th, we recommended certain revisions in the depreciation rates, which would result in a reduction of approximately $300,000 for the year 1923. In his letter of October 2nd Mr. Gherardi concurred in these revised rates as reasonable and proper, and suggests that we take the matter up with Mr. Heiss before any actual changes were

made. On October 17th Mr. Heiss expressed his approval of the changes in rates, but suggested that we do not adopt the new schedule pending the determination by the Interstate Commerce Commission of its policies. Under these circumstances, therefore, the 1923 provisional estimate provides for depreciation at the present filed rates. We can, however, be ready at any moment to adopt the new
5764 schedule upon receipt of advice from Mr. Heiss."

I will give several examples of *reports, data* and charts relating to business conditions, and the estimated growth of the Company's business. The first one I will refer to is the 1925 Provisional Estimate of the Northwestern Bell Telephone Company. There is first a letter of transmittal from Mr. Belt, President of the Northwestern Bell, to Mr. Gifford, Vice-President of the American Telephone & Telegraph Company, dated November 5, 1924. Following the short letter of transmittal is a report on the Company's 5 year program, its estimates for 1925 to 1929, inclusive, consisting of 28 pages of typewritten text, incorporating a lot of data on station growth, plant growth and construction program and 16 charts illustrating the trend of business conditions, and the estimate of future business conditions; that data is found on the first chart.

On the second chart are graphs relating to connects and disconnects. On the third chart they relate to gross connects per station gain. The next chart is gross and net additions to plant:

The next chart is net additions to plant per station gain and average plant in service per average station.

5765 The next chart shows total plant per station of each of a number of classes.

The next chart shows total depreciable physical property and the depreciation reserve. The next one shows the toll investment and revenue per circuit mile. The next one, conductor feet of cable in plant per station.

The next chart is the telephone revenues of each of the several classes per average station, these data being for recent past years, that is from 1919 to 1923, inclusive, and estimated for 1924 in part, and for all of 1925, 1926, 1927, 1928 and 1929.

The next chart shows per cent of telephone revenue to

average plant in service. The next, total telephone revenues and total telephone expenses for the years 1919 to 1929, inclusive.

The next chart shows the 5 year construction program, toll investment and annual toll revenues.

The next shows average toll calling rate, years 1919 to 1923, and estimated rates for the years in the future up to 1929.

The next chart shows telephone expenses per station for each of the different classes of expenses. The next is per cent net telephone earnings to average plant in service.

5766 As another illustration of the sort of data incorporated in the Provisional Estimates I refer to Provisional Estimate A for the year 1929 for the Northwestern Bell Telephone Company. A report on the business conditions and the construction program together with a number of charts, is transmitted with the letter from Mr. Belt, president of the Northwestern Bell Telephone Company, to Mr. Gifford, president of the American Telephone & Telegraph Company, dated November 6, 1928.

The report submitted with the letter consists of 19 pages of data and recommendations, and there are 16 charts with graphs setting out pretty much the same sort of information that I have testified to in respect to the 1925 and 1929 Provisional Estimates of this company, and this is true of all of the Provisional Estimates, there are incorporated a considerable number of tables of financial and statistical information in regard to the company's operations and predicted operations.

5767 As another illustration of the sort of data to be found in the Provisional Estimate of the various Associated Companies, I refer to the 1929 Provisional Estimate of the Pacific Telephone & Telegraph Company, sent to Mr. Gifford, president of the American Telephone & Telepgrah Company, by Mr. Pillsbury, president of the Pacific Telephone & Telegraph Company, with letter of transmittal, dated November 5, 1928. This Provisional Estimate—or this report accompanying Mr. Pillsbury's letter contains 10 pages of typewritten matter, and a number of charts. The first chart shows the gross and net gain in company's stations for the year 1924 to 1933; those for the years 1924 to 1928

being actual, and from 1929 to 1933 being estimated. The chart shows both the outward and the inward movement of stations.

The next chart shows the per cent gain and per cent outward movement to total movement. The next chart shows the relation between Manual, Dial System and Total Stations, the next chart, the gross and net additions to plant; the next chart, the net additions to plant per station gain and the total plant at the end of the year per station; the next chart, the total plant per company's station; the next chart, the toll outside plant investment, the toll revenues and the toll messages per circuit mile.

5768 The next chart shows conductor feet of Cable per line and per Station; the next chart, total telephone revenues, total telephone expenses, and net telephone earnings to average plant in service; the next one, telephone revenues, per station, toll revenues, per cent increase over previous year; the next chart, telephone expenses per average company's station; the next chart, total telephone revenues, total telephone expenses and net telephone earnings per average company station.

The next chart, the total depreciable property and the depreciation reserve—these charts covering the years from 1923 to 1933 separately, the earlier years being according to the facts, and the later years according to estimate.

I find two or three more charts and references of this character that I would like to make mention of. One, and it is simply an illustration, is in the 1929 provisional estimate of the Bell Telephone Company of Pennsylvania. There is a chart marked Exhibit C in this Provisional Estimate, which shows the actual number of company stations of the Manual Common Battery Type, of the Manual Magneto Type, of

5769 the Dial Panel Type, and of the Dial Step-by-Step Type in each year from 1921 to 1928 inclusive, and estimated for each year from 1929 to 1933 inclusive.

I find in the provisional estimate of the Northwestern Bell for the year 1923, provisional estimate, a chart entitled "Result, telephone revenue, expenses and earnings per station, and earnings and depreciation, also in per cent average plant in service; figures for per cent of plant are followed by %; other figures are dollars per station; the revenue is the total

telephone revenue, the expense is the total telephone expense except depreciation, the earnings are the net telephone earnings. 'Before' means before depreciation; 'After,' after depreciation."

This chart is for the years 1917 to 1927, inclusive.

I find in the Provisional Estimate of the New England Telephone & Telegraph Company for the year 1928, a chart which is a showing of the general business condition in New England and the entire country, compared with normal, including forecast of conditions in New England. There is such a chart in many of the Provisional Estimates.

I find in the 1931 Provisional Estimate of the Indiana
5770 Bell Telephone Company, a series of charts relating to plant, revenues, expenses and net earnings for the years 1923 to 1933.

I find one showing the growth of plant by classes, including construction work in progress, for the years 1920 to 1930 actual, and for the years 1931, 1932 and 1933, estimated. As the final illustration of this class of information I refer to the 1928 Provisional Estimate of the Northwestern Bell Telephone Company and will read a list of charts taken from that Provisional Estimate's table of contents.

Number 1, Summary. Number 2, General Business Conditions. Number 3, Purchasing Value of Principal Crops in Northwestern Bell Territory. Number 4, Purchasing Value of Principal Crops by States. Number 5, Net Station Gain and Gross Connections and Disconnections. Number 6, Gross Additions to Plant by Classes. Number 7, Gross and Net Additions to Plant, and Plant Displaced, and per cent of Average Plant in Service. Number 8, total Depreciable Physical Property and Depreciation Reserves. Chart 9, Net Additions to Plant Per Station Gain. Average Plant in Service per Average Station.

Chart 10, Total Plant by Classes of Plant at the end
5771 of the Year. Chart 11, Total Plant per Station, by Classes of Plant, end of year. Chart 12, Per cent Increase in Toll Messages, Toll Revenues, and Toll Circuit Plant. Chart 13, Toll Circuit Mileage by Types of Facilities. Chart 14, Conductor Feet of Exchange Cable per Station. Chart 15, Station Statistics, Growth of Dial Service.

Chart 16, Operating Percentages. Chart 17, Total Tele-

Revenues and Telephone Revenues per average station. Chart 18, Total Telephone Expenses and Total Telephone Expenses per Average Station. Chart 19, Expenses per Average Station by Classes. Chart 20, Local Calls per Station per day.

I find this reference in the 1923 Provisional Estimate of the Mountain States Telephone & Telegraph Company; I will read a paragraph.

"A—General Business Conditions, Prices and Industrial Wages.

"In considering these primary elements as to their relation to our forecast for the period, we have taken as a general guide the statement and charts accompanying Mr. Thayer's letter of September 7th.

"In applying the projection of general business conditions, however, some allowance has been made based upon past experience for the fact that changes in business conditions throughout the country as a whole usually affects the Rock Mountain Region approximately eight months after they have become apparent throughout the east. No regional changes in conditions with respect to industrial wages or commodity prices are foreseen for this company's territory, indicating any marked departure from the trend shown on the charts, and these trends have therefore been our general guide in estimating expenses and construction costs."

Then I have a reference from the 1923 Provisional Estimate of the Pacific Telephone & Telegraph Company, which is typical of much of the information available in the Provisional Estimates. Reading from Paragraph A of the letter from Mr. McFarland, president, Pacific Telephone & Telegraph Company, to Mr. Thayer, president of the American Telephone & Telegraph Company, I quote as follows:

"A—General Business Conditions, Prices and Industrial Wages.

"Crops throughout the Pacific Coast generally have been more than satisfactory, and the feeling among the farmers that 1923 promises better times, is perhaps more lively than in any other form of industry, for the reason that they are now in a better cash position than at any time during the past two years. Receipts from live stock are now greater than during the past year; building

activities and real estate operation especially in San Francisco and Los Angeles have already exceeded expectations for the latter part of 1922; and there is no reason for expecting a slow-down in the coming year. On the contrary our own estimates of the increase of population during 1923, and observations made by various Chambers of Commerce in Washington, Oregon and California cities point to a continuation of real estate activities for the near future, and increased activities in some sections of our territory.

"Mining, which remained quiescent during 1922, has now begun to show real improvement. Larger outputs in copper, silver and zinc are reported, with increased prices, and it would appear that only a shortage of skilled labor in this industry will retard great activity in 1923."

I will not read more of the letter, but it goes on in six or eight more paragraphs covering various phases of
5774 business conditions in the territory of that company.

(Counsel for the City stated that he did not consider that the letter proved any fact.)

I have quite a number of illustrations respecting other
5775 phases, other classes of data to be found in Provisional Estimates.

In the Provisional Estimates of the New England Telephone & Telegraph Company for 1928 and 1929, I find reports on a very considerable program. The 1929 Provisional Estimate refers to projects for the extension of Dial in many of the Central Offices, and for eleven new Exchange Buildings. The 1929 report gives a considerable program in regard to the conversion of the larger Magneto Offices to Common Battery, and lists the major construction projects.

The 1929 Provisional Estimate of the Chesapeake & Potomac Telephone Company gives a construction program covering 26 pages for the period 1929 to 1933, and includes land, buildings, Central Office equipment, repeaters, carrier, studies of Dial program, studies of Manual projects, station estimates, outside cable program, pole replacements and so forth.

5776 The Mountain States Provisional Estimate for 1929 refers to 380 smaller exchanges of 1000 stations or less which need improving to bring the service into line with the large ones; and plans to replace iron grounded toll circuits

with copper circuits; with a discussion of plant projects in great detail.

The 1928 Provisional Estimate of the New England Telephone & Telegraph Company has a paragraph that is interesting. It is in the report showing the growth of units of plant to be maintained, and says that consideration was given not only to the improved condition of plant, but to the increased productivity of forces.

I find in the Provisional Estimate for the Pennsylvania Company a reference to the proposed purchase of the Lehigh Company, and a reference to the fact that purchases recently made, and those contemplated, pretty nearly cleared up the competitive situation in Pennsylvania. That is the provisional estimate of 1923 for the Bell Telephone Company of Pennsylvania and associated companies, and the reference is in a letter of Mr. Kinnard, president of the company, to Mr. Thayer, president of the American Telephone & Telegraph Company, letter dated June 30, 1923. I find another reference that is more or less typical, the Ohio Bell Company provisional estimate for 1925 makes reference to the fact that during the period 1920 to 1929, the increase in the depreciation reserve was expected to be from 8.08 per cent to 18.24 per cent, a large increase during the period, the rates applied being part of the time 5.32 per cent and part of the time 3.28 per cent.

I find references in the 1929 provisional estimate of the New York Telephone Company and the 1930 provisional estimate of the Southern Bell Telephone & Telegraph Company to the fact that the company's dial program of extension and conversion has been adapted to the manufacturing requirements of the Western Electric Company.

Specific references to depreciation that I would refer to as illustrations, I find in the 1925 provisional estimate of the Southwestern Bell Telephone Company in a letter dated November 13, 1924 of President E. D. Nimmons to Mr. Gifford, executive vice president of the A. T. & T. paragraph 9 on depreciation.

"For the Southwestern Company, the effect of the new administration building in St. Louis, as well as the other comparatively large central office buildings is shown in the increase in the depreciation per station. The depreciation

reserve for the Kansas City Company is now lower than it should be. Accordingly, our reserve is being gradually built up to a proper amount, and the effect of this program is shown in the per station costs."

The Kansas City Company was a competing company that the Southwestern Bell Telephone Company had purchased.

5779 I find in the 1924 provisional estimate of the Indiana Bell Telephone Company this reference to depreciation in paragraph 1, of letter to Mr. Gifford, vice president of the American Telephone & Telegraph Company from Mr. Rottger, president of the Indiana Bell Company; the paragraph is entitled, "Depreciation," and I quote:

"The annual rate of depreciation used the last four months of 1923 and for 1924 to 1928, inclusive, is 6.09 per cent, applied to the average book value of depreciable property. Prior to September 1, 1923, we used 5 per cent, applied to a tentative value set by the Public Service Commission of Indiana, plus actual net additions to plant, which was the equivalent of 4.3 per cent applied to book costs."

I find in the Chesapeake & Potomac 1923 provisional estimate, in a letter from Mr. Berry, its president, to Mr. Thayer, president of the American Telephone & Telegraph Company, letter dated November 28, 1922, depreciation rates quoted as follows:

"Rates filed with the I. C. C. in 1922 and used in provisional estimate, the C. & P. Telephone Company, 4.85; the 5780 C. & P. Telephone Company of Baltimore City, 5.77; the C. & P. Telephone Company of Virginia, 5.77; the C. & P. Telephone Company of West Virginia, 6.05; the C. & P. group, 5.60."

Then in another column:

"Rates determined by new study made in 1922, the C. & P. Telephone Company, 4.34; the C. & P. Telephone Company of Baltimore City, 5.65; the C. & P. Telephone Company of Virginia, 5.68; the C. & P. Telephone Company of West Virginia 5.95 and the C. & P. Group, 5.40."

I find in the Michigan State Telephone Company provisional estimate for 1924, the following reference to depreciation rates of purchased property, and I quote from the letter from Mr. Kuhn, president of the Michigan State Telephone

Company to Mr. Gifford, vice president of the American Telephone & Telegraph Company of November 13, 1923:

"The depreciation expense shown is somewhat higher for 1923 than might be indicated by a study of the figures for nine months as shown on the monthly reports. The expense is also relatively high for 1924, and in a lesser degree for the other years. The figures shown have been obtained by
5781 using the present composite rate of 5.1 per cent for the plant built or acquired by the Michigan Company prior to August, 1923 and for all plant to be built after that time. A rate of 10.2 per cent, however, has been applied to the plant purchased from the Citizens Telephone Company, as it is estimated that that plant has on the average lived about one-half of its useful life, and a reserve should be accumulated during its period of service to provide for its retirement. The effect of this higher rate is not of great moment beyond 1926, however, as some of the purchased plant will have been displaced by that time and the remaining plant, becomes a decreasingly smaller factor, owing to the increased size of the total plant."

And then again, in the 1929 provisional estimate of the Michigan Bell Telephone Company I find a reference to depreciation rates of both the Bell and the Citizens Telephone Company property, that property having been purchased by the Michigan Bell. It says of the Citizens Company property
that the rates average nearly twice as high as those for
5782 the former, the Bell Company, on account of the shorter life of the purchased plant.

I find one more reference that is of interest. It is in the 1930 provisional estimate of the Bell Telephone Company of Pennsylvania, and refers to a postponement of maintenance, that the company might not overrun its provisional estimate.

The rate of retirement of plant by one company as compared with another company gives some indication as to whether the conditions of one company as compared with another company are comparable or not comparable as respects depreciation.

I have prepared an exhibit to show the per cent of retirements to plant in service of each of the different classes of plant for each of the associated companies of the Bell

System.

It is defendants' Exhibit X-320, consisting of four
5783 sheets and entitled, "Illinois Bell Telephone Company, Chicago Rate Case, Depreciation Data from Provisional Estimates, Per Cent retirements, Depreciation Rates." The year is 1923. There is one sheet for 1923 and one for 1924.

I obtained the percentages shown on each of these two sheets of this exhibit from statement "C" of the provisional estimate. The percentages are shown in column "F" of statement "C" and it is entitled "Per Cent of Plant Displaced to Average Total Plant."

These are estimates in the provisional estimate.

5784 If the percentages of plant retired to plant in service were alike for the companies, the different companies for each year throughout a period of years, I would say that it was a strong factor in establishing the fact that the conditions were comparable. It is not the only factor.

(Objected to and motion to strike by plaintiff, overruled.)

5785 In my opinion, if there were wide differences in the per cent of plant retired to plant in service of the different companies throughout a period of years, it would
5786 indicate to me a lack of comparability between the companies as respects depreciation.

(Objected to and motion to strike by plaintiff overruled.)

5787 Composite depreciation percentages are to be found on the third and fourth sheets of Exhibit X-320. The data show both the depreciation rates actually applied and those estimated in the forecast of the provisional estimates. They are obtained from line 32 of statement A in the provisional estimates.

These figures on pages 3 and 4 of Defendants' Exhibit X-320 show, among other things, a considerable variation in the composite depreciation per cents actually applied by the different companies, these ranging for the year 1923 from 4.81 per cent for the New England Telephone Company to 5.3 per cent for the Pacific Tel & Tel. Company.

5789 "Mr. Haight: Q. Then I will put this question to you, Mr. Wray: From the depreciation percentages shown in this last exhibit, Defendants' Exhibit X-320, and from

the percentages of retirement shown in the preceding exhibit.

A. The same exhibit.

Q. Oh, in the preceding two sheets of the same exhibit, and from such consideration as you are able to give of the letters, reports and other data in the provisional estimates, have you any opinion as to whether the conditions obtaining in the different associated companies of the Bell System are comparable as respecting matters of depreciation?

5790 Mr. Braeden: That is objected to, if the court please, as incompetent and calling for a conclusion of the witness upon a matter which is not the subject of expert testimony; on the further ground that no foundation has been laid for asking the opinion of this witness; also upon the ground that the question relates to a matter of argument purely.

The Court: My own opinion is that the objection is good, but having in mind the way in which this case is tried, I will take his answer, so that if the remainder of the court do not agree with me, they may consider the answer.

Mr. Braeden: Also the further objection that it is based upon hearsay.

The Court: Well, it seems to me there is one point in which the question—there is an element in the question, it seems to me, which makes it impossible for the witness to give an answer which would mean anything to the court, that is, with such examination as you have been able to make of these provisional estimates. There is no way in which the court can tell what examination he has made of them. The question really does not mean anything with that in. And, of course, if he has not made—he has either made an

5791 examination of these documents or he has not. If he has made an examination of them, passing the question whether it is a matter for experts to testify to, or whether it is something anybody can arrive at a conclusion from the facts, he can give his opinion.

On the other hand, if he has not made the examination, his opinion is not worth anything.

Mr. Haight: Well, I think our situation is this: The plaintiff in this case offered figures showing depreciation with respect to each company. Here is a mass of some eight or

ten thousand pieces of paper used regularly in the operations of this company, that have material, with important bearing, upon the questions of depreciation respecting these associated companies. Now, it is true, that there has not been any opportunity to make an examination or study such as required to use that material, or to use material to which that material leads to make a real examination, and yet it may be that what short opportunity has been given is sufficient to show in the opinion of this man, experienced in this business, that they are comparable.

Now, I think your Honor's suggestion that there is
5792 no showing definitely of what that examination is, may have some real point to it, but if we would limit our questions simply to the material that he has identified on this record, it may be the witness would have an opinion from that alone, indicating lack of comparability. Of course, after all, it is a question for the court to pass on.

The Court: Well, I will take his answer. I do not think it is a matter for expert testimony in any respect. I do not know that we need an expert to testify about that. He can give his view. It would be an argument which he is making in place of the lawyer, I should think.

Mr. Haight: Will you give your answer, Mr. Wray, without any guinea stamp upon it at this time.

A. I would say that the conditions prevailing in one associated company as compared with another are not comparable as respects depreciation."

5793 I was able to begin my examination of the provisional estimates on Saturday, June 4th.

In my opinion, it would take from three to six months
5794 for our organization to make a complete and thorough study of the data available in the provisional estimates that would completely determine the matter of comparability or lack of comparability of conditions in the associated Bell companies as respects depreciation.

I obtained the data on sheet 2 of Exhibit X-313, from Mr. F. B. Wright of the general telephone sales department of the Western Electric Company, 195 Broadway, New York. He is the gentleman who brought the supporting data for the table which is sheet 1 of Exhibit X-313, and who gave me the table which is sheet 2 of Exhibit X-313, this being a break-

down of the data on sheet 1 according to years.

5795 I got that table, which is sheet 2 of Exhibit X-313, from Mr. Wright on May 21st. He delivered it to me in the company's temporary office in the Palmer House here in Chicago.

Some of the classes of long-lived telephone plant that have low depreciation rates are underground conduit, fireproof buildings, underground cable. Some of the shorter-lived classes of plant requiring high depreciation rates are aerial wire, poles, central office switchboards, interior block wire, and aerial cable. Dial equipment has a longer life and lower depreciation rate than manual central office equipment. The

5796 proportions of different classes of plant vary widely as between different companies.

I believe that it is the practice of some of the companies to apply specific depreciation rates to each of the principal classes of plant; others apply composite rates, and the practices have varied through the years.

A comparison of the individual rates for each class of property for each company certainly would be helpful in showing whether conditions were comparable or not comparable between the different companies respecting depreciation.

(This was received subject to objection.)

5797 "The Court: It may be understood that the objection includes all the grounds heretofore urged to that line of testimony."

The graphs relating to the fair cross section appear in Exhibits X-314 and X-318.

I do not present those as giving in my opinion fair cross sections.

5798 The graphs in Exhibits X-314 and X-318 are simply to illustrate the lack of fair cross section as brought out in the tables in Exhibits X-313 and X-317. They are not intended to show a cross section, varying considerably in one item as against another. In each of these exhibits, it demonstrates that the cross section is not a fair cross section. If the cross section were fair and representative, the percentages would be uniform for one item as compared with the others.

Referring to the second table in X-313, for illustration,

and referring to the total figures at the right hand of this table, and the percentages in the last column, which are the percentages of sales to Illinois Bell, to total sales to Bell System, if the Illinois Bell had in fact purchased a representative cross section of the Western Electric Company's sales to the Bell System, the percentages in the last column would all have been alike or substantially alike instead of varying as they do. That same observation applies to the figures in Exhibit X-317 and the comparable chart in X-318.

5799 I prepared Defendants' Exhibit X-321, entitled "Illinois Bell Tel. Co.—Chicago Rate Case—Relative Size of Bell System and Independent Tel. Co. Groups."

Broadly, it is a summarization of certain data to show the relative size and importance of the Bell System group of telephone companies with the largest independent telephone companies, those of the Class A, B and C companies.

The first sheet of Exhibit X-321 shows in the first column items such as number of central offices, number of stations, and so forth. In the first column of figures is given the number for the Class A, B and C independent groups together. Then follows the per cent which the independents is of the total Bell and independents. Then follows figures under the caption "Bell System," for the Bell System. This is followed by per cent of Bell System, and at the right hand of the table are found the total figures of Bell and independents combined.

To illustrate further, referring to the first line, the 5800 independent Class A, B and C telephone companies have 3,747 exchanges or central offices. The Bell has 6,585, and there are a total of 10,332, of which the independents have 36.3 per cent and the Bell 63.7 per cent.

Now, in the next line we find that the independents have 11.8 per cent of the telephone stations and the Bell 88.2 per cent, and so on.

The rest of it can easily be read.

On the first sheet, which bears at the top the legend, "Illinois Bell Telephone, Chicago Exchange," the facts respecting Bell System came from the report of the A. T. & T. for the year 1930. The facts respecting Class A, B and C independent telephone companies came from reports of those com-

panies prepared by the United States Independent Telephone Association. The Class A, B and C independent tele-
5801 phone companies have 11.8 per cent of the total stations of that group and the Bell group.

The Bell group, as I have given it here, includes all of the companies in the Bell System.

On the second sheet of this exhibit I have taken certain data from the pamphlet of the American Telephone & Telegraph Company, showing the comparison of Bell and independent companies, or rather showing the telephone development in the United States. This pamphlet is entitled, "Telephone and Telegraph Statistics of the World, January 1, 1931." From that pamphlet I obtained the data respecting the Bell and independent telephone exchanges combined, shown at the left hand of the sheet. I find that New York has a population of 7,014,900, and that it has 1,786,270 telephones.

5802 The independent telephones constitute less than 3 per cent of the total number of telephones in this group of 52 cities.

In Defendants' Exhibit X-322, the source of the information is the company's books.

(These sheets of Exhibit X-322 are identified as follows: The first page is entitled, "Analysis of account 510, message tolls, eight years, January 1, 1923 to December 31, 1930" the second sheet, "Analysis of account 512, leased toll
5803 lines," the same period, and the third sheet, with two groups of information, entitled, respectively, "Analysis of account 514, telegraph service on toll lines," and "Analysis of account 516, through toll line revenues.")

With regard to separation and apportionment of revenue and expense and net income, in its station-to-station separation and apportionment of revenues, expenses and net income, shown on Plaintiff's Exhibit A-49, the plaintiff has credited to intrastate toll and to interstate toll certain revenues which on its books are designated as exchange revenues.

A part of the revenue which, on the company's books, is classed as exchange revenue is billed for service other than exchange service.

5804 An instance of this is a toll terminal which cannot be used for exchange services because it terminates

directly on the toll board. The rental of it [illegible] credited to account 500, subscribers' station [illegible] is an exchange revenue account.

In its separation, the company has allocated the [illegible] from toll terminals to toll, and apportioned it between intrastate and interstate.

There is exchange revenue which may cover either exchange or toll service.

An instance of this is as follows:

Suppose we have a private line from an [illegible] to a factory on the West Side; the calls which go over that line would necessarily, if we did not have it, [illegible] calls, and the use of that private line is therefore an exchange use. If, on the other hand, that private line goes to a [illegible] at Maywood, the calls which now go over it would if

5805 did not have it, necessarily go over the toll lines, [illegible] use is therefore a toll use. In other words, the [illegible] which is credited to account 504, private exchange [illegible] cover either exchange or toll service, according to the circumstances in each case.

The company has so apportioned it in Plaintiff's Exhibit A-49.

In City's Exhibit No. 93, introduced in [illegible] previous hearing, which included the present [illegible] change rates, the single business base rate was $4 per month.

That covers eighty calls per month.

"Q. And so far as this schedule shows, does the [illegible] $4 cover any other calls besides the eighty [illegible]

Mr. Thompson: I object to that. If it is the interpretation of a written instrument, I do not believe that [illegible] vary the writing itself. He is asked, as I understand it, to interpret this schedule, not the meaning of any language in it.

Mr. Haight: Well, I think Mr. Thompson is [illegible]

5806 Our position in respect to it is, so far as the [illegible] shows, the charge of $4 does not cover any [illegible] than exchange calls. That would be our interpretation of the document, and it may be a matter [illegible] ment."

In its separation of revenues in Plaintiff's Exhibit A-49, the company apportions between exchange intrastate and interstate toll the revenue resulting from these [illegible]

revenues are in account 500, subscribers' station revenues. The company apportioned them on the time use of the subscribers' line for exchange intrastate toll and interstate toll service.

The revenues from pay stations resulting from local exchange calls are credited to account 501, public pay station revenues. If a pay station, from which no toll calls have been made since the last collection, has $5 in the box, the local exchange calls would have been given for the $5. If there had been toll calls, none of the revenue from them would have been credited to this account. It would have been credited to account 510, message toll.

In its separation of revenues in Plaintiff's Exhibit A 49, the company has apportioned account 501 between exchange, intrastate toll and interstate toll, on the basis of the time use of subscribers' lines for exchange, intrastate and interstate toll service.

I have an exhibit, Defendants' Exhibit X 263, entitled "Illinois Bell Telephone Company—Chicago Exchange Redistribution of Exchange Revenues included in Intrastate and Interstate Toll," showing for each year the amounts of revenue resulting from the exchange rates such as those I have described, which in Plaintiff's Exhibit A 49 the company has apportioned to intrastate toll and to interstate toll. The figures to be found in Defendants' Exhibit X 263 were taken from the working papers of Mr. Krause in the preparation of Plaintiff's Exhibit A 49.

Looking at the first line of Defendants' Exhibit X 263 which is designated "P B X Terminals," out of the total revenues resulting from the exchange rates for this class of service during 1923, the company has apportioned $16,236.92 to intrastate toll as shown in the second column of figures and $5,774.21 to interstate toll as shown in the last column.

The second line shows that out of the total revenues resulting from the exchange rates for P B X switchboards during 1923 the company has apportioned $9,582.94 to intrastate toll and $5,179.97 to interstate toll. Practically all of the balance in account 500, (after excluding the toll terminals which I have stated are used only for toll), is the revenue resulting from the exchange rates shown in Plaintiff's Exhibit 93, and of this revenue for 1923 the company has apportioned $574,591.85 to intrastate toll and $310,

64,965 to interstate toll as shown on the third line. Of account 501, pay station revenues, which, as I have stated, consists wholly of money paid for exchange calls, the company has apportioned $58,154.72 to intrastate toll, and $31,454.98 to interstate toll, as shown on the fourth line. The lines designated "total" is, of course, arrived at by totaling the figures above, and shows that of these four revenue items the company has apportioned $658,676.43 to intrastate toll and $356,041.31 to interstate toll.

In the first column of figures I have added these amounts and find that out of these four items of exchange revenue the company has apportioned $1,014,717.74 to toll.

The rest of the exhibit shows the corresponding amounts for each of the other years from 1924 to 1931, both inclusive.

5810 As Exhibits X 264 to X 270 B, inclusive, all entitled "Illinois Bell Telephone Company—Chicago Exchange Station to Station Separation and Apportionment of Revenues, Expenses and Net Income, 1923 to 1931," inclusive, we have treated the totals arrived at in Defendants' Exhibit X 263 as "additions" and "deductions."

Referring to Exhibit X 264, this exhibit is made up in the same form as Plaintiff's Exhibit A 49, and the data in it are taken directly from A 49, except that in the first line, which is designated "Exchange revenue", I have added or subtracted additions and deductions shown in Defendants' Exhibit X 263 to the exchange revenue figures shown in Plaintiff's Exhibit A 49 in order to show what the distribution of exchange revenue between exchange, intrastate toll and interstate toll would be if we included in the exchange column all of the revenues resulting from rates for exchange service.

The "total Chicago" amounts shown in the last column are, of course, the same throughout as in Plaintiff's Exhibit A 49, since the only change I am making is in the distribution of those totals.

Going down the various columns, the toll revenue fig-
5811 ures shown in the second line and the miscellaneous operating revenues in the third line are the same as in Plaintiff's Exhibit A 49. We have made no change in them because they do not result from rates fixed for exchange service. There is a minor adjustment of account 313 (1)

interest earned, amounting to some $200 in the non-operating revenues. The gross revenues, licensee revenue, debtor, and the total revenues are all changed in distribution by the changes in the figures above them, the totals in the last column remaining the same.

Traffic expenses are distributed in Plaintiff's Exhibit A 49 according to the labor and other costs involved in handling exchange and toll calls and are not affected by our redistribution of revenues. The distribution of commercial expense depends in part on the distribution of the revenues, and the transfer of over one million dollars of revenue to the exchange column involves the transfer of about $80,000 of commercial expense to that column. For the same reason general and miscellaneous expenses are also increased slightly in that column. Maintenance and depreciation are functions of the plant and are therefore not changed.

5812 Taxes in the exchange column are increased to cover such taxes as, like the federal income tax, are based on earnings, and also the three per cent taxes to the City of Chicago.

Other expenses and deductions are increased in that column to care for the portion of account 304, uncollectible operating revenues, which are associated with the exchange revenues transferred on the first line. I have already stated that none of the totals in the last column were changed, and, therefore, in each case, where we have increased the expense figures in the exchange column, we have made corresponding decreases in one or both of the toll columns.

These changes in the revenue and expense figures result in a balance in the exchange column of $5,479,156, as compared with the balance of $4,736,311 shown in Plaintiff's Exhibit A 49.

The next item of net compensation for use of Chicago and downstate property is not affected. Adding this to the last figure quoted, gives a balance available for return on the present rates amounting to $5,739,097 as compared with the company's figure of $4,996,252, which is shown in Plaintiff's Exhibit A 49.

5813 The next item is reduction under rates in suit. The company has apportioned this reduction between exchange, intrastate toll and interstate toll on the same basis as the exchange revenues to which the reduction applies.

Since the reduction affects only certain rates for exchange service, and I have credited all of the revenue resulting from these rates to exchange, I have of necessity charged all of the reduction to exchange. This gives a balance available for return under rates in suit amounting to $4,181,857 as compared with the company's figure of $3,483,393.

The other sheets relate to the different years as indicated at their heads.

Defendants' Exhibits X 265 to X 270 B, both inclusive, are the same in form as Defendants' Exhibit X 264.

They give the same information for the years 1924 to 1931, both inclusive, that Exhibit X 264 gives for the year 1923.

5814 Defendants' Exhibit X 271, entitled "Ill. Bell Tel. Co. Chicago, Exchange—Balance available for Return," is simply a comparison for each year between the balance available for return as shown in Plaintiff's Exhibit A 49 and those shown in Defendants' Exhibits X 264 to X 270 B, inclusive. It shows the balance both under present rates and under rates in suit as apportioned between exchange, intrastate and interstate toll.

For example, in the first column of Defendants' Exhibit X 271, for the year 1923, we find the figures which I gave a moment ago as the balance available for return under the present rates as shown in Plaintiff's Exhibit A 49 and in Defendants' Exhibit 264.

The difference between the balance as shown on these two exhibits is shown in the third line of Defendants' Exhibit X 271, which is $742,845.

This difference is the net result of the transfer from 5815 toll to exchange of the exchange revenues amounting to $1,914,717.74, shown on the fifth line of Defendants' Exhibit X 263, together with the various adjustments in the other revenue accounts and in certain expense accounts which result from that transfer in Defendants' Exhibit X 264 as I described those adjustments. My answer will be the same with respect to the differences shown in the first column for all the years subsequent to 1923. The difference increases each year up to 1930 when it becomes $1,618,918. In 1931, it goes off about $178,000, presumably because of the drop in revenues during that year.

In the exchange column the differences all represent in

creases, while in the intrastate and interstate toll column they are all decreases, and in the column headed, "Total Chicago" there are no differences. This is due to the fact

5816 that I have not changed the company's totals in any of the revenue or expense accounts but merely their apportionment as between exchange, intrastate toll and interstate toll.

Referring to the last five columns, which show the balance available for return under rates in suit, I would give the same explanation of these figures that I did in the case of the first five columns, the figures varying, of course. The balances shown here are taken from the last line of Plaintiff's Exhibit A 49 and of Defendants' Exhibits X 264 to X 270B, inclusive, and the differences shown are computed in the same way as they were in the first five columns.

We find, as before, that in the exchange column the difference increases each year up to 1930, when it becomes $1,551,597 and drops off somewhat in 1931.

For the year 1923, both Plaintiff's Exhibit A 49 and Defendants' Exhibit X 264 show a reduction under rates in suit amounting to a total of $1,557,240.

5817 If the Commission's order had been complied with the reduction in the year 1923 would not have amounted to $1,557,240, because the rates prescribed by the Commission's order would have been effective only during the last three months of that year, so that the actual reduction during 1923 under the rates in suit would have been only about one-quarter of that shown in both of these exhibits.

In Exhibit X 271A, entitled "Illinois Bell Tel. Co.—Chicago Division Additional Income under Attacked Rates due to Defendants' Interstate Separation (Giving Consideration to Effective Date (Oct. 1, 1923) of Ill. Commerce Commission's order of August 16, 1923) during year 1923," I have a computation showing the effect on both Plaintiff's Exhibit A-49 and Defendants' Exhibit X 264 and X 271, of the fact that the reduction would have affected the income only during the last quarter of 1923.

5818 On Exhibit X 271, the differences between the company's method and my method on separation are contained in columns 1, 2, 3 and 4 and in columns 6, 7, 8 and 9.

The first line in Exhibit X 271A shows the income avail

able for return under present rates, and is taken directly from Plaintiff's Exhibit A-49. Item 2 on Exhibit X 271 shows the reduction during the last quarter of 1923 under the rates in suit, the estimated reduction, and is computed simply taking one-quarter of the amount shown in the next to the last line of Plaintiff's Exhibit A-49.

Item 3 is item 1 minus item 2 and shows what the last line of Plaintiff's Exhibit A-49 would have shown, had the reduction been applied only to that portion of the year 1923 during which it would have been effective under the Commission's order.

Items 4, 5 and 6 are worked out from Defendants' Exhibit X 264 in the same way that items 1, 2 and 3 were worked out from Plaintiff's Exhibit A-49, item 6 showing what the last line of Defendants' Exhibit X 264 would have shown had the reduction been applied only to the last quarter of the year.

Item 7 is computed in the same way as the differences shown in the last five columns of Defendants' Exhibit X 271. Defendants' Exhibit X 271 shows, for example, that the exchange balance available for return under the rates in suit is $698,464 greater during 1923 on the basis used in Defendants' Exhibit X 264 than it is on the basis shown in Plaintiff's Exhibit A-49, while Defendants' Exhibit X 271 A shows that if the reduction be applied only to that portion of the year during which the attacked rates would have been in effect, the difference is increased to $731,750.

I have compared Mr. Sloan's computations of taxes during construction in Plaintiff's Exhibit No. 1 and A 11. I find differences in method. The first difference is in 5829 the first column of figures, which shows the cumulative cost of plant each year. In this column, Plaintiff's Exhibit No. 1, excluded all overheads, while Plaintiff's Exhibit A 11 includes all overheads except interest and taxes. These overheads increase from the first year to the tenth year of the construction period. In the tenth year they amount to $13,929,762, which is the difference between the cumulative figure shown in the computation of taxes on page 8 of Plaintiff's Exhibit A 11 and the total direct charges in the last column of page 2.

The taxes in the 1930 study amount to $5,768,920, and in the 1923 study to $2,163,856, an increase of about 170 per

cent. The total of the 1930 appraisal amounts to $229,325,348 and of the 1923 appraisal to $145,248,344, or an increase of about 58 per cent. The taxes as Mr. Sloan
5821 has computed them in these two studies increased nearly three times as much as the total appraisal. This difference is due, in part, to the fact that in his 1930 study he has included overheads which he had excluded from his 1923 study.

As to other differences in method which I have found between Mr. Sloan's 1923 and his 1930 studies, in the last column, the amount of taxes chargeable to construction each year is computed differently in the two studies. In both studies, the taxes are computed by applying the annual rate to the cost of plant shown in the next to the last column. In the 1923 study to compute the taxes chargeable each year, the rate is applied to the cumulative cost of plant during that year, while in the 1930 study it is applied to the cost of plant two years previously.

The effect of that change in method is to omit the taxes on the plant assessed for taxes during construction during the last two years of the construction period.

5822 The cost of plant assessed for taxes during the ninth and tenth years is less than in any other year, except the first year, when it consists wholly of overheads.

Mr. Sloan did not include the first year in computing the taxes.

The omission of the last two years make a difference in the answer of $471,037.

In both Mr. Sloan's 1923 study and his 1930 study, the figures in the first column, "cumulative cost of plant" are taken directly from his construction program and I understand include construction work in progress.

I base that understanding partly because of the basis used for his computation of interest during construction, but chiefly because I so understand his testimony in regard to central office equipment at the previous hearing, volume 2, page of the transcript, 666.

5823 I stated that the figures in the first column on page 8 of Plaintiff's Exhibit A-11 are taken directly from the cumulative cost of construction as shown on page 2. On page 2 it is shown, for example, four million dollars for buildings in the second year, $12,500,000 in the third year,

$15,000,000 in the fourth year, $16,500,000 in the fifth year and the full amount of $17,831,770 in the sixth and each subsequent year. Previous to the sixth year, I understand that these amounts include some buildings in process of construction.

5824 The Illinois Bell Telephone Company for the Chi-
5825 cago area pays six distinct taxes:

Real Estate Taxes; Personal Property Taxes; South Town Capital Stock Tax; Illinois Franchise Tax; Federal Income Tax and 3 per cent Gross Earnings tax to the City of Chicago.

Mr. Sloan included in his computation all of them except the Federal Income Tax and the 3 per cent Gross Earnings Tax to the city. Those two are based on revenue rather than property and are therefore not chargeable against construction project.

In fixing the rate which Mr. Sloan applied to his estimate cost of reproduction as shown on Plaintiff's Exhibit A.11, Mr. Sloan used the amount of capital stock taxes actually paid by the company.

5826 I would not expect the capital stock on the structure during each year of the period to be the same as in 1923.

I have an exhibit showing the capitalized overheads during the entire period from 1911 to 1931.

It is Defendants' Exhibit X-270C, entitled "Ill. Bell Tel. Co.—Chicago Exchange—Capitalized Overheads."

I believe that the figures on this exhibit for the years 1911 to 1922, inclusive, are the same as those that Mr. Cummings read into the record, with the addition of interest during construction, which came from the same source, City's Exhibit No. 2, record volume 6, page 1873.

(June 27, 1932.)

5830 The sources of the overheads and interest from 1923 to 1931, both inclusive, in Exhibit X-270C are as follows:

For the first half of 1923, I took the engineering and general from City's Exhibit No. 2, record volume 6, page 1873, and added them together to get the capitalized overheads for that period.

For the second half of the year, I took as the capitalized overheads, the difference between the gross additions per

books, during the half year, and the gross additions less capitalized overheads as both figures are shown on page 4 of Plaintiff's Exhibit A-2. I then divided the overheads for the entire year as thus computed by the gross additions less overheads for the entire year to obtain the 1923 percentages shown here. The interest during construction I took from Plaintiff's Exhibit A-57, and reduced it to the percentage shown here in the same way.

For each subsequent year, I computed the overhead percentage in the same way that I have described for the
5831 second half of 1923, using the data on page 4 of Plaintiff's Exhibit A-3 to A-10, inclusive. The interest during construction I took from Plaintiff's Exhibit A-57, as I did for 1923. The last column of this exhibit shows all of the overheads, including interest during construction which have been charged to fixed capital during each year from August, 1911, to December 31, 1931.

I have a copy of Exhibit A-51. I have examined the bases used in computing the amounts of compensation shown in that exhibit. For example, in 1931, item A, credits Chicago with $88,402 as compensation for the use of Chicago land and buildings for state-area purposes. The properties involved in this line are five buildings in the downtown group, which are known as the Bell, Main, Toll, Franklin and Telephone Square buildings, and two warehouses. The amount of $88,402 includes five items which are, first, rate of return, amounting to $46,974; second, maintenance, amounting to $10,755; third, depreciation, amounting to
5832 $13,512; fourth, insurance, amounting to $282; fifth, taxes, amounting to $16,876, all going to make a total of $88,402, which is the total amount of item A in Exhibit 51. I found, with respect to these items that the first step was to apportion these buildings on the basis of the amounts of space occupied for Chicago and for state-area purposes. The land on which each building stands was apportioned by the percentage resulting from the apportionment of the building on it. The return of $46,974 was computed by applying 8 per cent to the book cost of the state-area portion of the land and buildings.

The effect of this procedure with respect to Plaintiff's Exhibit A-49 and to item (g) and in part to item (f) of Exhibit 51 is as follows:

The net compensation at the bottom of this Exhibit 51 is used in computing the balance available for return in Plaintiff's Exhibit A-49, and that balance is used in computing the rate of return in Plaintiff's Exhibit A-53.

In Plaintiff's Exhibit A-53, the balance available for return is applied to two rate bases, one of which is based on book cost and the other on reproduction cost. In such
5833 a computation as this, the balance available for return and the rate base to which it is applied should be on a comparable basis, and to the extent that the balance includes compensation on book costs, it is not properly applicable to a rate base which is computed on a reproduction cost basis. In other words, the company, in claiming its return on its property is claiming 8 per cent on reproduction cost, while at the same time it is charging another area for the use of Chicago buildings on the basis of 8 per cent on book cost, which is less. If the compensation were computed on reproduction cost, the amount shown in Plaintiff's Exhibit A-51, which is used in computing the balance in Exhibit A-49, and the rate of return in Exhibit A-53, would be substantially larger, about $35,000.

With reference to maintenance, I found that it is computed by applying to the number of square feet used for state-area purposes the actual average maintenance cost per square foot in all of the company's Chicago buildings. That is the company's method. Maintenance per square foot is substantially higher in large office buildings such as the most of these than it is in buildings such as those used for
5834 central offices throughout the city. Central office buildings, for example, have no elevators to maintain.

I found that depreciation expense is computed by applying the depreciation rates which the company considers applicable to these buildings. To the extent that these rates are not proper, to that extent the company's computations will be incorrect.

Insurance is computed by applying the insurance rate to the state area portion of the book cost of each building. It is our understanding that the rate used in each case was computed by dividing an estimated premium by book cost of the building, instead of the actual premiums paid.

Taxes were computed by applying to the book cost a rate which is obtained by dividing the amount paid by the tax-

able value, which in every instance is higher than the book cost. This would necessarily result in too low a rate, and consequently in too small an amount of compensation.

Another question arises with respect to taxes in that
5835 the only tax used in this computation is that on real estate. In 1931, the South Town Capital Stock Tax was nearly twice as much as the real estate tax, and since on the balance sheet the assets are balanced by liabilities which include capital stock, the question as to whether the Capital Stock Tax should also be included in this computation, is debatable.

Another point is that if this computation is considered as revenue to the Chicago area, the state area should stand its share of the 3 per cent city tax on gross earnings. It would also seem that the state area should stand its share of the part of the state franchise tax which is apportioned to Chicago.

Items B, C, D and E of Exhibit 51, all relate to the general equipment accounts. The compensation includes the same factors as in the case of real estate, except for maintenance, and in the case of items C, D and E, depreciation, which are distributed over the primary expense accounts. Return is computed at 8 per cent of the book cost, and since general equipment is included in Mr. Sloan's reproduction estimate at book cost, the criticism made in respect to
5836 the method used in computing return on real estate does not apply to general equipment.

Depreciation on item B and insurance, are computed in the same way as in the case of buildings, and the same comments would apply.

Taxes are computed by applying a tax rate obtained by dividing the total Chicago area personal property taxes by the book cost of the personal property. The same questions arise here in respect to the capital stock tax, and 3 per cent gross earnings tax, and the state franchise tax, as in the case of real estate.

The amount of $58,641 for item F, official private branch exchange is computed as follows:

Charges for state area purposes have been made at monthly commercial base rates for all telephones of state area employes and for a proportion of the switchboards and trunks, a proportion of operators' salaries, rentals for P.

B. X. switchboards, rent of floor space used for the P. B. X. switchboard and a proportionate share of [illegible] penses. This is done on a per line basis, no [illegible] actual usage being available. The charges [illegible] lowing items:

5837 Item 1: Charges for telephones [illegible] ployes at regular commercial rates. [illegible] cluding a proportionate share of the charges for the [illegible] and for trunk lines.

Item 2: The charges include a proportion [illegible] department expenses of operating the P. B. X. [illegible] These charges include only operators' wages [illegible] sion, and do not include any share of the cost [illegible] tors' school and of training operators.

Item 3: They include a proportion of annual [illegible] floor space occupied by the P. B. X. switchboard. [illegible] nual charges are as follows:

a. Rate of return is computed at 8 per cent [illegible] The same criticism in respect to reproduction [illegible] apply as in the case of land and buildings.

b. Maintenance is computed on a square [illegible] the average maintenance cost of all buildings [illegible] area. It should be noted that the maintenance [illegible] Franklin Building are higher per square foot [illegible] age for the City of Chicago, and the same [illegible] apply as in item (a) of Exhibit A-51.

c. Insurance premiums are included [illegible]
5838 basis as in the case of item (a) A-51. [illegible] Land, and the same comments apply.

d. Taxes are computed on the same basis as [illegible] ings and land, item (a) Exhibit A-51, and the [illegible] cisms apply. The basis for the charge of [illegible] (g) plant and equipment used to operate [illegible] suburban exchanges is the same as used for [illegible] ings in item (a) Exhibit A-51, and the same [illegible] ply. It should further be noted that these [illegible] 1923, $140,529; for 1924, $151,501; for 1925 [illegible] these three years the differences between [illegible] book cost basis and on a reproduction cost [illegible] large.

With reference to item J, Chicago [illegible] service furnished on concession basis [illegible]

[illegible] which amount is $30,757, the figures are computed [illegible] on concession rates applied to base or minimum guarantee rates. Although the concessions in fact apply to total [illegible] for local service, including all messages over the minimum or guarantee rate, no allowances for concessions [illegible] excess messages have been made in this computation. The charges with reference to item (k) amount [illegible] $22,476, entitled, Toll Calls on Company Business, [illegible] to include toll service for state area employes [illegible] be noted, however, that only 26 per cent of the [illegible] for toll calls of general officers and general employes on company business are charged against the state area in the above figure.

[illegible] The item (a), land and buildings, which amounts [illegible] $[illegible], being part of compensation to state area for [illegible] used in part for Chicago area purposes, includes the [illegible] Mackin Hall and Recreational Center for Employes. It consists of the following items:

Rate of return at 8 per cent on book cost;
Maintenance expenses;
Depreciation expenses;
Insurance;
Taxes.

Exhibits identified by Mr. Wray on direct examination [illegible] numbered X 313, 314, 315, 315A, 316, 317, 318, 319, 320, [illegible] 263, 264, 265, 266, 267, 268, 269, 270, 270A, 270B, [illegible] 271, 271A, offered in evidence subject to cross examination.

Cross Examination by Mr. Thompson

I have just been talking about Plaintiff's Exhibit A-51, which shows detail of net compensation to Chicago for use of Chicago property for state area purposes, and use of state area property for Chicago purposes which includes the years 1923 to 1931.

[illegible] One of the items that I mentioned and criticized, [illegible] was the amount credited to Chicago for Chicago residence telephone service furnished on concession basis to state area employes, and the basis of my criticism was that it was on a straight commercial rate, without keeping track of messages.

There is also compensation due to the state area for suburban residence telephone services furnished on concession basis to Chicago area employes. That is kept on the basis of the state, which is a flat rate. The Chicago area is on the base rate but that does not include the excess messages, if any.

The state area does not include excess messages. There are none, because the rates are flat rates. The difference between those two sums in the year 1923 is about $400. In 1930 it came to almost $6,000.

It is my understanding that the company does not keep any account of the excess messages used by its employes for state area uses in their phone concessions in Chicago. I criticize this exhibit on the ground that they do not, and not doing it, they fail to charge to the state area for all of the messages incurred. So far as the property is concerned, it is figured upon an 8 per cent return on the book cost of the property devoted to the state. I criticize it, not because it is too low, but because it is not consistent with the charges that the company is claiming for [illegible] the use of its property.

In figuring compensation to Chicago for the use of Chicago property for state area purposes and compensation to the state area for Chicago use of state area property on the basis of rate of return, I think that they should be on a comparable basis. I don't know that there has never been an inventory or an appraisal of property in the state area. In order to make this exhibit comparable I think the return would have to be figured upon the book cost of the property, or there would have to be an appraisal of all the property in the state area.

On direct examination I think I was asked the following question:

"Do you happen to know whether the Western Electric Company sold any step by step equipment in the Chicago area during the period 1924 to 1930, both inclusive," and that I answered it as follows:

"No. The Western Company sold no step by step equipment for the Chicago area for the reason that that area is served by the panel type and manual equipment, and the step by step equipment is not used in the Chicago area, nor in other large population centers like Chicago."

I say that now, too.

The Illinois Bell Company uses no step by step equipment in its central offices in the Chicago area. I do not know that it is not a fact that the Western Electric Company has sold no step by step equipment for the Chicago area 3845 during the years 1929 to 1930, for use in the Chicago area. I am quite familiar with the equipment used in Chicago for telephone purposes. I do not know it to be a fact that there has been sold by the Western Electric Company to the Illinois Bell Telephone Company for use in the Chicago area approximately $2,000,000 of step by step equipment during the period 1923 to 1931, for use in official P. B. X. large dial P. B. X. and small dial P. B. X.

I know that the Illinois Bell has no step by step central office equipment in the Chicago area. I was trying to show in my testimony that the sales by the Western Electric 3846 Company to the Illinois Bell for use in its Chicago area was not a fair cross section of the sales generally by the Western and I think I have done that. I made the point that our reason for it was that there was no step by step equipment sold by Western to Illinois Bell for use in the Chicago area. I think my statement about no step by step equipment being sold by the Western to the Illinois Bell for use in the Chicago area would have been a little more accurate if I had said for central office exchanges. That is what I had in mind. My statement on the record is correct as respects central office equipment. Accepting your statement in regard to the $2,000,000, I presume my statement would be incorrect as respects equipments of the official and large and the small P. B. X.'s.

I have Exhibits X 317, X 318 and X 319 before me. Exhibit X 317 merely contains a detailed list of the items which I used in preparing the table and chart shown on Exhibit X 318.

In Exhibit X 318 I have taken from the provisional estimate for the years 1922 to 1932 the number of items in 32 different classes of telephone apparatus and cable for each of the Bell associated companies, and for the Bell System in its entirety, and prepared a table and graph which I say shows that the estimated quantities of materials to be delivered to the Illinois Bell Telephone Company are not 3848 a fair cross section of the estimated quantities of ma-

terial to be delivered to all the Bell associated companies by the Western Electric Company.

This exhibit deals exclusively with the number of items and does not deal with dollars at all. I understand that these provisional estimates represent the best forecast which the individual Bell associated companies can make with respect to their future purchases from the Western. They do not represent firm orders. They do not represent purchases. Most of the provisional estimates that I have examined have been delivered in November of each year for the next
5849 year's estimate. In them, the particular Bell associated company is estimating for a period of fourteen months in the future its gross purchases, and its purchases in each of the thirty-two separate classifications that are set forth in my Exhibit X-318, and also set forth in these provisional estimates.

When these provisional estimates are delivered, we will say in November, they are based upon estimates that were made some time prior to the delivery of the provisional estimates. They necessarily have to be made up and probably are prepared from July to November. The companies are taking a look ahead, not for substantially eighteen months, but for periods of from two to eighteen months. Two to fourteen months would be nearer correct.
5850 From my experience in the telephone business I know that it is highly improbable that these Bell associated companies would take from the Western, as purchases in any year, either the total aggregate amount that is set out in these provisional estimates or the amount listed in the thirty-two separate classifications. I know that they sometimes will take less and sometimes more.

A project that is contemplated by the Northwestern Bell Telephone Company in July of one year may be abandoned by January 1st of the following year, or new project undertaken; conditions may vary so that the amounts of these various classifications or sub-classifications are materially changed. They sometimes are.

A fair cross section of plant would mean that there must be substantial identity in the relative amount of pur-
5851 chases of the Illinois Bell Telephone Company in each one of these classifications.

In order to show that there was no fair cross section, I

have, in this exhibit, taken estimated quantities, not representing either firm orders or actual purchases, and in cases where I know the deliveries vary from the estimate; but I also know that these are the data upon which the Western Electric Company shapes its construction program, its manufacturing program and its purchases and its prices. I was not attempting, in these exhibits, to build up anything about the Western program. I was intending to show whether this represented or did not represent a fair cross section. I think that the other question that I have now brought up has a very definite bearing upon these exhibits. I know 5852 from my experience that these are estimates that the Western Electric does not use unmodified for the purpose of developing its own manufacturing program; that there are modifications in these estimates; that after these estimates come in, the Western is in constant touch with the Bell associated companies, in order to develop its own manufacturing program. And that it does not rely exclusively upon these provisional estimates; it gives such weight to them, as its experience has taught, they are entitled to, but it starts with these estimates. What I have done in these exhibits, X 317, X 318 and X 319 is to attempt to determine the question of a fair cross section first on items, not on dollars, and second on estimated future, and not actual present requirements or purchases. But a cross section on dollars would be no cross section at all. The only fair 5853 cross section would be on items, the types of manufactured by the Western Electric Manufacturing Company.

Q. Exactly. So that the dollar purchases would not enter into the cross section factor at all; the question of the amount of profit made would not enter into it, and by profit I mean either return on investment or profit on sales, is that correct?

A. I do not know how much further I might go in determining the cross section. I am conceding that

Q. No, Mr. Wray.

A. —wide variations in these items.

Q. If you will be kind enough to answer my question—

A. —there is not a fair cross section.

Q. If you will be kind enough to answer my question and then you may explain when your counsel will re-exam-

me? you. I am asking you whether you have paid any attention in these exhibits, either to dollar sales or to earnings on investment, or to profit on sales in determining what was or was not a fair cross section."

In Exhibits X 317, X 318 and X 319, no attempt was made to pay any attention to the dollar sales. The effort was to get at the fact as to whether there was a comparable fair cross section of estimated quantities for one company 5854 as against another as shown by the provisional estimates. We attempted an analysis of dollar sales in the preceding exhibits, X 313 and X 314.

In Exhibits X 317, X 318 and X 319 there not only was not any dollar weight, but, of course, there was no attempt to arrive at relative profit on sales or earnings on investment. Exhibit X 314 also gives only the number of items sold to the Bell System and to the Illinois Bell Telephone Company in seventeen accounts for the period 1924 to 1930. Exhibits X 314 and X 313 are analyses of the most important plant items sold to the Illinois Bell during the period 1924 to 1930 and for each year of that period. They are weighted as items only.

5855 Each item, no matter what the dollar quantity, is given the identical weighting for the purpose of these two exhibits. I do not know what per cent of the total plant in service for the period involved in this controversy the Illinois Bell has as related to the total Bell system. (Counsel stated that for the periods 1916 to 1930, 7.3 per cent of the total plant of the Bell associated companies is a weighted average figure.)

5856 In order to get a representative cross section for the Illinois Bell, I do not say that the percentage of large multiple sections shall be 7.3; it might be about 10 or 10.6. If the Illinois Bell property is to be a fair cross section of Western sales, then small multiple sections must likewise be 10.6; 550 and 551 types must be 10.6; 505 and 506 types must be 10.6, and so we go through the list, and if there is

5857 any substantial variation from 10.6, the identity is destroyed, and, therefore, a fair cross section is destroyed. I would permit a small variation of within ten per cent, that is 5 per cent either way. That, as related to the figure we have been discussing, is a 1 per cent variation

On that theory, if it was over 11 or under 10, the cross section would be gone.

3858 The item of Western Electric Company manufacture appearing on Exhibit X-317 summary sheet, which was sold in the smallest quantities for the entire period is 740 type P. B. X.'s. It might follow that that was one of the smallest dollar amounts on the list, but I have no way of measuring the dollars.

3859 If we start with the figure 10.6, for large multiple sections then every figure up and down the summary sheet must be 10.6 with a variation of not over .5 of 1 per cent either up or down. If every figure on this summary sheet was 10.6 except 740 P. B. X.'s, and that was 4 per cent, the cross section would be destroyed as an absolute fair cross section, but there are degrees of unfairness. If there were sold to the Illinois Bell, every item included in the summary list on Exhibit X-313 at 10.6 per cent of the
3860 total to the Bell System, except a single item of 740 P. B. X.'s, and there were only 4 per cent of them sold to the Illinois Bell, it would not be a fair cross section. I would not want to be bound down by absolute limits as to whether it is fair. Whether the weighting of these items makes a difference or whether a fair cross section is destroyed if all of these are not substantially the same, can be answered only by making this sort of a statement: The company furnished us with this statement of the most important items sold to the Illinois Bell and to the Bell System during the period 1924 to 1930, inclusive. I as-
3861 sumed that they were important items. I assumed that they were representative, and my analysis is of items, without taking into account the dollar effect, because I didn't have the dollars.

Assuming that every one of these items on the summary sheet of Exhibit X-313 was sold in the same identical quantities to the Illinois Bell Telephone Company, 10.6 per cent, save and except only the item of 740 P. B. X.'s, of those there were only 4 per cent sold, that will destroy the fair cross section of the items. All of these items that appear on X-313, with the exception of a portion of the step-by-step equipment are manufactured in the three plants of the
3862 Western Electric Company.

All of these items which are under the title, "Switch-

boards," are manufactured for performing the same function, that is, they are to switch calls, they are switching apparatus.

5863 If the large multiple section were 10.6 and the small multiple section were 5.1, then the cross section is gone, on this showing by the company, and on the substance of my testimony,—on this showing of items which are important items of Western Electric Company manufacture. I wouldn't say that a large multiple section and small multiple section are different assemblies of the same identical articles of manufacture. A good many of the items are

5864 common to both types. The switchboard frame will be different in a small multiple section than in the large multiple section. I would not attempt to go into details of the difference, but there are different dimensions and different sizes.

5865 (A document was marked Exhibit A-237.)

Whether Plaintiff's Exhibit A-237 contains a correct list of the items of manufacture found in large multiple sections, small multiple sections panel lines and step-by-step lines, and as to whether where the X's appear, that kind of an article appears in all these assemblies, can be answered fairly only by this sort of comment:

There are cords for large multiples, small multiples, panel lines and step-by-step lines, but there are different kinds of cords, different code numbers, and they are in different proportions in the different types of switchboard The

5866 same applies to plugs and lamps and keys and jacks and designation strips and practically every other item in the list.

These four things asked about, the large multiple switchboards, the small multiple switchboards, the panel lines and the step-by-step lines contain many things that are identical, and some things of the same type, and there are things of varying type. As to selectors, line finders, connectors, senders and jacks that are herein shown, a good many of the parts are stamped out.

5867 A great many of the items in the large multiple and small multiple sections are stamped out and assembled. They are made in the same factories, but with different machines and different people. A jack for a large multiple section and a jack for a small multiple section may be

made on the same machine. I doubt it, although I do not know. A jack for a panel line could be made on the same machine, if it is the same kind of jack. These various things perform the same general function, the switching function, but in a vitally different manner.

5868 What I am talking about is an assembly of different kinds of parts in a different way, and an assembly of some items that are alike for the different types of switchboard. How many kinds of parts are found in a large multiple section that are not found in a small multiple section I would not undertake to say offhand. I say that the fair cross section would be destroyed by a variation of five-tenths of 1 per cent as between a large multiple section and a small multiple section, without knowing how the parts would vary, or what the effect would be either on profit on sales, or earning on investment, with respect to them.

5869 I don't remember whether in the Indiana Bell case, I approved the use of a representative weighted [illegible] for each of the years 1913 to 1922, based on a constant cross section of plant.

I presume that the following was my testimony in 5870 the state wide case at Indianapolis, before Judge Page:

"Question: Have you checked the material and labor costs for the Indiana Bell Telephone Company, and for the construction of its plant for the years 1913 to 1923, both inclusive?

Answer: Yes, sir. These costs were checked by members of my staff under my direction.

Question: Did you check the Company's appraisal, as testified to by Mr. Halstead, on the basis of five-year average unit costs?

Answer: Yes, sir, we did.

Question: As well as on the ten-year average unit costs?

Answer: We did, and the current costs, November, 1922.

Question: What did you find as a result of making those checks as to whether the unit costs used by the Company were reasonably representative of actual costs of telephone construction during the several years?

5871 Answer: They do reasonably represent the actual costs during those periods."

5875 I don't recall Plaintiff's Exhibit A-212 identified during the testimony of Mr. Cummings, and copies of

which he said he found in the files of J. G. Wray & Company. I am very sure that they were not made up in our office. They may have been made up by the company.

5876 I was not in court when Mr. Cummings was asked some questions about this. I heard about it rather vaguely. I didn't hear much about it. It is quite possible, that Mr. Cummings did find them in the files, but that doesn't prove they are our exhibits. I don't know that I approved their use.

Plaintiff's Exhibit A-212 shows the same identical cross section of representative weighted plant for each of

5877 the years; account 221, Central Office Equipment shows the same number of items, of each of the same list of plant items for each of the years.

"Mr. Thompson: Now, in order not to take too much of the court's time, I am going to give you certain exhibits, and then I am going to give you the record of your testimony, and I am going to give you the original papers, and then tomorrow you can come back and answer these questions so that there will be no doubt about what I am after.

I have before me here Exhibit A-238, it says, "Muncie, Indiana." Now, here is the basis of the appraisal to which you testified on the '16 to '20 unit costs. Then that was converted to the 1913 to 1922 level by the use of certain conversion factors which, applied to account 221, Central

5878 Office Equipment, was 94.46. The same costs for '16 to '20 were converted to the November, '22 level by the use of a conversion factor applied to Central Office Equipment, of 134.57 per cent. And then here is the sheet marked Exhibit A-239 for the Muncie, Indiana, Exchange, we will go down to Central Office Equipment, which is Account 221.

A. It is.

Q. There is that conversion factor, 94.46. Do you see that?

A. I do. You claim that these are my exhibits?

Q. No, I claim they are exhibits prepared by Mr. Halstead which you approved by your sworn testimony. Now, we will take next the Indianapolis Exchange. Under Account 221, Central Office Equipment, do you note that 94.46 per cent conversion factor?

A. I do.

Q. It is identical with Muncie, isn't it?

A. It is.

Q. All right. Now, that is to convert that five-year average appraisal to the ten-year average. Now, let's take
5879 Exhibits 240 and 241, for Muncie and Indianapolis, also under account 221. I call your attention now to Exhibit A-240, Account 221, conversion factor 134.57. Do you see that?

A. I do.

Q. I now call your attention to Indianapolis Account 221, the same identical conversion factor, isn't it?

A. It seems to be, but I am simply—

Q. All right. On the papers.

A. (Continuing.) —saying that those are the figures you mention.

Q. Yes.

A. I don't know just what they mean.

Q. You know from your experience with Indiana property that Muncie was a manual central office?

A. That is my recollection.

Q. Yes.

A. It is a long time ago.

Q. You also know that Indianapolis had a number of step-by-step offices at the time this testimony by you was given?

A. I don't remember that.

Q. Well, I will ask you if it didn't have more than 14,000 step-by-step lines in the Lincoln, Stewart, West Park,
5880 Irvington, Clifton, Parkside and Kenwood offices?

A. I don't remember. I would have to refresh my recollection.

Q. All right. I am going to furnish you with the record, so we will not take any more time on this exhibit, and then I want you to come back tomorrow morning and tell me whether you didn't use a representative weighted quantity of plant—approve the use of it, in arriving at factors to convert the five-year average, '16 to '20, to the ten-year average, '13 to '22, and the spot prices as of November, '22, and whether you did not apply the conversion factors so obtained to every central office in the State of Indiana, irrespective of the varying amounts of central office equipment, or varying types that it had, irrespective of whether it contained only manual equipment, or step-by-step equipment?

I will turn this over to you.

A. With a copy of the record?

Q. Yes, with a copy of the record.

5881 The three Exhibits X-315, X-315-A and X-
only ones in which dollar comparisons
with the Western Electric Company
or based on percentage calculations
amounts.

On Exhibit X-315, I find that the per cent
Illinois Bell by the Western Electric
tire period '16 to '31 is 7.27 per cent
by the Western to all Bell associated

With respect to Exhibit X-315-A, which
the percentage of sales to the Ohio Bell
year 1923, and 3.4 per cent for the next
whether the Ohio Bell acquired the
sometime late in 1922, or early in
5882 whether it acquired other properties
of this exhibit. My Exhibit X-
age calculation, based upon
5883 (Counsel for Defendants state
Defendants' Exhibit X-322 is
nue effect of the Department of
developments during this period of
Lines and the Illinois Bell, that is,
that have been developed during
5884 exhibit is limited to license
has no effect on the question of
be claimed to have any effect
contract.)

In the plaintiff's separation Exhibits
and 55, and A-183 to A-192, both inclusive,
the revenues and expenses, the plaintiff
between its interstate and its intrastate
penses. It then divided its intrastate
change and intrastate toll. While the
ample, in Exhibit A-53 was shown
intrastate toll business, there was
on the total intrastate business and
ness.

What I have done in my Exhibit

[illegible] between the company and myself on the separation of revenues and expenses of both intra and interstate business, so far as it affects exchange service revenues and related expenses.

I do not understand that the amounts in dispute on this question are not the difference shown in column 1 of my Exhibit X 263, but the difference shown in column 3.

For the year 1930, I show in Exhibit X 263 that I have added back into exchange revenues the sum of $2,130,405.80 or that total sum of $2,100,000 plus, nearly a million and a half, intrastate toll. In determining the amount of the property revenues and expenses, while exchange and intrastate toll have been shown separately, it is my opinion that the question here involved is not the return of the company's [illegible] total intrastate property, because the rates involved are [illegible] local exchange rates.

On the separation of exchange service revenues, we differ from the company in respect to both of the amounts of $2,130,000 and the smaller figure, $648,613.65 shown in column 3 of Exhibit X 263 under the year 1930.

I am not attempting to say that the controlling figure representing the difference between me and the company, is $2,130,000. I am attempting to show the amounts that the company had transferred from exchange revenues to toll, both intrastate and interstate, that in my judgment belong in exchange.

In the company's separation exhibits, what it did was to take out of the subscribers' lines and the subscribers' stations [illegible] and so forth, a certain amount of property on account [illegible] of the interstate use of that property. It did not also [illegible] take out revenue proportionate to the property taken out. It did take out certain revenues, which it claimed were applicable to that property. It also took out certain expenses also claimed by it to be applicable to that portion of the exchange property used for interstate service. The net effect of my separation is that I leave over in interstate property, [illegible] the property which the company took out.

[illegible] I bring back into exchange revenues all of the revenue [illegible] it took out, and I bring back a part of the expenses, leaving a part of the expenses in the interstate expenses. It [illegible] not the purpose of my Exhibit X 271 A to show the effect

of the loss in revenue due to the reduced rates on a quarterly basis; whereas the company in its exhibits, has shown what the effect of this reduction would have been had the reduced rates been in effect in the year 1923, in order to show the full annual effect of the rates. The purpose of the exhibit is to show what the effect would have been if the computations had been made to apply during the period in which the new rates would have been in effect in 1923.'

I hadn't any thought of putting it on a quarterly basis in contrast to the company's having determined what the effect would have been had the rates been in effect during the entire year 1923.

5889 I apportioned them on the basis of the period that the rates would have been in effect had they been applied. It happened to be a quarter of a year, but that doesn't mean that this was set up on a quarterly basis. It was, in fact, set up on one fourth of a year, because that was the period in which the rates would have been in effect. I attempted to get what the actual effect would have been during the period in which the rates would have been in effect, had they gone into effect on the date fixed by the Illinois Commerce Commission, whereas, the company has prepared and presented an exhibit which shows what the effect would have been if they had been in effect during the entire year, on an annual basis.

5890 I am somewhat familiar with the Uniform System of Accounts. I do not pretend to be an accountant. The company is supposed to keep its accounts in accordance with the classification there prescribed. In the Uniform System of Accounts, page 60 "Operating revenue Accounts" is as follows:

"Exchange service revenues, 500, subscribers station revenues, page 61, 501, public station revenues, page 61. 502, miscellaneous exchange service revenues, page 61. 503, service stations, page 61. 504, private exchange lines, page 61. 505, minor rents of exchange plant, page 61. 506, other exchange revenues, page 61."

Those pages refer to subsequent, more extended definitions of these accounts, appearing in the uniform system of accounts.

5891 If a subscriber has a telephone in his home in Chicago, not connected with the Central Office, with a private line

running directly to his factory in Maywood, the revenue is treated in the company's accounts as follows:

That portion of the private line within the Chicago Exchange area, that is, the revenue from that portion of the private line within the Chicago Exchange area goes to the Chicago Exchange revenues. Maywood is outside the city limits of Chicago. I do not understand that in the Company's accounting practice the revenue for the instrument itself is the only portion of the revenue which is credited to Exchange Service, and that the leased line is credited to the Toll Line Account. I understand that the revenues are credited to Exchange Revenues. My testimony with respect to the leased lines is based upon the understanding which I have just stated.

5892 In my direct examination I testified that the taxes used by Mr. Sloan in his 1930 study were about 170 per cent of those used in his 1923 study. I am willing to admit that it is 167 per cent. It is a small difference, and I would have to compute it. I stated that in the meantime, that is, from 1922 to 1930, the Sloan appraisal had increased 58 per cent, and that the difference in this large tax increase was due, in part, to the fact that Mr. Sloan had included in his 1930 study, overheads which he had excluded in his 1923 study.

I think probably that taxes had increased in the City of Chicago very largely in proportion to the value of property during the period 1923 to '30. I assume the correctness of your statement that the taxes accrued by the Company in 1923 for its Chicago area amounted to $1,802,765, and those accrued for 1930 by the Company, $4,811,781, or a ratio of 167

5893 per cent.

If the assumption is correct, Mr. Sloan's increase as between his 1923 study and his 1930 study for taxes is approximately 167 per cent, and the Company's experience in Chicago is approximately 167 per cent, and if so, then Sloan in 1923 used $2,163,856 when the Company paid only $1,802,

5894 000. These '23 and '30 studies that I am talking about were Sloan's valuations; they were studies of the overheads, that would be met under reproductive conditions, over a period of years.

5894 Mr. Sloan, in making this study of his structural overheads did not include something more than the work-

that was in progress, theoretically, the reconstruction work, that is, what you would ordinarily find on the Company's books, construction work in progress.

The testimony was that it does include the overheads on construction work in progress. By "construction work" I mean the work that is actually going on under these as-
5895 sumed reproductive conditions, if you will. The whole point to a study of structural overheads on reproductive conditions is to find out what the overheads would be on the work that is in process of construction. The point that I make about this construction work in progress would be that in the actual operations the overheads are stated in terms of the plant in service, and in Mr. Sloan's set-up they are stated in terms of the total plant. It may be true that Mr. Sloan has figured it the same way that I figured it, every time I testified to structural overhead, in either a confiscation or a rate case; that is in determining the amount of interest during construction, or taxes during construction, Mr. Sloan has figured those with respect to the property which was being constructed during his hypothetical reconstruction period.

5896 There was offered in evidence during my testimony Exhibit X 270 C, which shows the capitalized overheads of the Chicago Exchange area. It seems to be correct that the Company does not include, and never has included in its capitalized overheads any taxes as shown on that exhibit.

Insurance and taxes have been treated by the Company
5897 as operating expenses. They are not included in capitalized overhead in this exhibit. Until 1920, the Company did not include any interest during construction in its capitalized overheads. I am not able to say whether subsequent to 1920 the company included only a small portion of the interest that would be met during a reconstruction period. It has probably not included all the interest in its capitalized overheads that would be met under a reconstruction program.

5899 K. E. THOLIN, a witness on behalf of the defendants, having been previously duly sworn, resumed the stand and testified further as follows:

Direct Examination Continued by Mr. Goldstein.

(June 27, 1932.)

I have made an examination of specific estimate No. C-25227, covering the new Manual Central Office Equipment of the new Merrimac office. This specific estimate contains the following reference to certain cost studies:

"Studies were made to determine the relative economies of Manual and Machine Switching Equipment, the latter of the panel type. These studies show economies amounting to $370,000 in present worth of annual charges during a period of 18 years in favor of Manual Equipment.

"The Manual Equipment is, therefore, recommended for the initial installation."

5900 Exhibit X-323, entitled "Illinois Bell Co.—Montclaire Office—Manual and Panel Switching Equipment—Comparative Cost Study" consists of photostatic copies of the summary pages of that cost study, together with one detail sheet showing the breakdown of the annual charge percentages. These pages now marked X-323 were furnished by Mr. Mapes, Chief Engineer of the Illinois Bell Telephone Company.

The first two columns of the first page marked "Sheet A," numbered 1, upon the upper right-hand corner, represent a study as of December 31, 1933, and the second sheet, marked "Sheet B" represents a study as of December 31, 1945.

The third sheet, marked "Sheet C" represents a 5901 study as of July 31, 1938. The costs shown in the study are intended to represent book costs as of the respective future dates. Page 4 is a detail of the Annual Charge Percentages which have been applied in each of these studies. These rates were applied to the estimated costs as shown in these studies. The same rates were applied to both manual and dial, with the exception of the rates on sub-station equipment wherein a slight change was made, as shown on

page 4 of this exhibit. The Company used a 14 year life in computing the depreciation rate of 3.7 per cent of Central Office Equipment, as shown on page 4.

5902 Mr. Mapes advised me that there was no study to determine the 14 year life, but that the 14 years was based on judgment, and had been used for cost study purposes for some time. This depreciation rate is based upon the sinking fund method, rather than the straight line method. Interest at 7 per cent was considered in determining this depreciation rate. This resulted in a rate of 3.7 per cent applicable to Central Office Equipment. The date of the study was July 7, 1925.

In its operating expenses as shown on Exhibits A-49 and A-53, in the year 1925, on Central Office Equipment the Company used a rate of 6.7 per cent, determined by the straight line method based upon a 12-year life and 20 per cent salvage.

5903 The depreciation rates shown on page 4 of this exhibit (X-323) for the other types of property are also based upon the sinking fund method, with interest on the amounts reserved for depreciation computed at the rate of 7 per cent. The same annual charge percentages have been applied to each of the studies, namely, 1928, 1933 and 1945. The first column on page 6 of this exhibit, entitled "Factor" is the amount which, if put at interest at the rate of 7 per cent, will amount to $1 in the years shown. The amounts in the third column, headed "P. W." mean "Present Worth," and are the result of applying these factors in the first column to the amounts in the second column. At the bottom of the page the summary of the third column shows that it would

5904 be more advantageous to the Company to the extent of $370,000 to install Manual Equipment rather than Machine Switching at this particular office.

I have previously quoted from Specific Estimate C-27120, covering the installation of the new Long Beach Exchange as follows:

"The basis for recommending a panel machine unit for the Edgewater District relief is a cost study which indicates that machine switching equipment should be installed in this case. The study has been reviewed by the American Telephone & Telegraph Company and they concur in the conclusions

reached in a letter to the Chief Engineer, dated August 20, 1926."

(Objection by plaintiff to reading paper into the record. Objection overruled.)

Exhibit X 324, entitled "Cost Study Central Office 5905 Equipment (Edgewater Area) Correspondence relating thereto" is a photostatic copy of the letter referred to in the quotation, together with a photostatic copy of the summary page of the cost study, and a detail page dealing with the breakdown of the annual charge percentages used in this cost study.

Exhibit X 324 was also furnished by Mr. Mapes. This cost study is similar to the one covered by X 323, concerning which I have already testified.

The computations for depreciation are on the sinking fund basis as in X 323.

5906 Referring to the examples which Mr. Braeckeln put to me on cross examination bearing upon per cent conditions. He put three examples. The first example was the investment of $10,000 on January 1, 1926, to be retired January 1, 1940, with additions to be added on January 1, 1931, of $40,000, likewise to be retired January 1, 1940. I have prepared a statement which shows how much would be accrued for depreciation and charged to operating expenses from January 1, 1926, to December 31, 1930, in respect to this example, on the basis of the method which Mr. Turner used in figuring the depreciation rates on central office equipment as exemplified by the illustration on the Kedzie office appearing on sheet No. 5 of A-128. Exhibit X-325, page 1, entitled "Examples 1 and 2—Depreciation Studies (Turner Method)" shows that statement.

The upper part of this exhibit shows the basis data as to investment, and also shows an average life of ten years, computed according to Mr. Turner's method. The lower portion of the exhibit shows the amount of depreciation which would be charged to operating expenses during the five years 5907 1926 to 1930, in respect of the original investment of $10,000 which constitutes the entire investment during that period. This depreciation amounts to a total of $5,000 for the first five years, and is equal to 50 per cent of the original cost of the property, leaving 50 per cent of the cost not yet recovered.

In answer to Mr. Bracelen's question, I stated that the per cent condition of the assumed property as of December 31, 1930, would be 50 per cent.

Under Mr. Turner's method we would continue to apply the same 10 per cent rate to this $10,000 as a part of the total of $50,000 in each of the years 1931 to 1939, thus accumulating a total sum of $14,000 by charges to operating expenses.

In connection with my Exhibit X-185 Mr. Bracelen gave me example No. 2, which assumed a ten thousand-dollar investment on January 1, 1926, to be retired January 1, 1934, with additions of $15,000 on January 1, 1931, likewise to be retired on January 1, 1934. I have prepared a statement
5908 which shows how much would be accrued for depreciation charged to operating expenses from January 1, 1926, to December 31, 1930, in respect to this example on the basis of the method which Mr. Turner used in figuring the depreciation rates on central office equipment as exemplified by the illustration on the Kedzie office appearing on sheet 5 of A-128. Exhibit X-325, page 2, shows that statement.

This exhibit is very similar to the Exhibit X-325, page 1. The upper part shows the basic data of investment, and the computation of the average life of five years, and the lower portion shows the amount of depreciation expense that would be accrued in each year. The first block of the lower portion deals with the period 1926 to 1930, and shows that by the end
5909 of 1930 there would have been accrued $10,000 of depreciation which would have been charged to operating expenses during those five years; this amount being equal to 100 per cent of the original investment. In respect to this example I stated the per cent condition would be zero condition, and in the lower part I have shown the additional accumulation of depreciation of this same unit of $10,000 which would be an additional sum of $6,000, making a total accumulation of depreciation charged to operating expenses equal to 160 per cent of the original investment.

I have prepared an exhibit which will show an example wherein the per cent condition would be minus, and which would show the depreciation charges accrued to the date when I determined the per cent condition with respect to such property as Mr. Bracelen indicated. Exhibit X-326, entitled "Ex-

ample 3—Depreciation Study (Turner Method)" is such a statement.

This exhibit is prepared in similar form to Exhibit X-325, pages 1 and 2. The upper part shows the basic data
5910 and shows the computation of average life four years.

The per cent condition as determined at the end of 1930, by the method which I followed, would indicate 25 per cent below the zero point. The depreciation expense that has been accrued in the first five years, according to Mr. Turner's method, would be $12,500, in respect of the original unit of $10,000, or equal to 125 per cent of the original investment. The following three years that this unit would be in service, an additional sum of $7,500 would be accrued, making a total accumulation of depreciation charged to operating expenses of $20,000, equal to 200 per cent of the original investment.

In connection with A-68, I have compiled a statement showing the companies in Illinois whose certificates are included in that certificate. Exhibit X-327, entitled "List of Exchanges in Illinois shown in Exhibit A-68" is that statement.

This statement shows the number of stations served
5911 by the Company, the number of stations of the particular community to which the certificate in A-68 in each case applies, and the interests which control the particular company.

This information was taken from the Annual Reports of the Companies for 1931, filed with the Illinois Commerce Commission, and part of its official records. Exhibit X-341, entitled "Interstate Commerce Commission—Depreciation Charges of Railroads and Telephone Companies (Final Order) July 28, 1931" is the final order of the Interstate Commerce Commission in case number 14700 "Depreciation charges of Telephone Company," dated July 28, 1931, which is the final order of proceedings, and of which the Commission's Exhibit 27, Record Volume 1, was the preliminary order.

Exhibit X-342, entitled "Interstate Commerce Commission —Uniform System of Accounts for Telephone Companies, Jan. 1, 1913" is the uniform system of accounts for telephone companies as prescribed by the Interstate Commerce Commission effective January 1, 1913, and still in force.

I have examined the books of the Illinois Bell Telephone

Company to determine its accounting procedure in connection with the sale of the Randolph central office build-
5912 ing.

I found a credit to the Company's surplus account in the year 1927 in the amount of $61,082.73, which represents profit resulting from the sale of the Randolph central office building to the Chicago Title & Trust Company. The sale price of the building was $253,000, from which was deducted the book cost of $190,666.56, and the expense of sale of $1,250.71, leaving a net profit of $61,082.73. In addition to this profit, the Company transferred in the same year the sum of $83,259.92 from the depreciation reserve to surplus. This represented the Company's estimate of the depreciation which had been accrued and charged to operating expenses during the life of the building. This was treated as an additional item of profit, and transferred to surplus account.

I have examined the Company's records to determine its interest in the east wall of the building at 212 West Washington street. I found that one-half interest in the said east wall had been sold to the Morton Building Corporation
5913 in 1926, resulting in a profit of $35,376.43. The sale price was $77,426, from which has been deducted the estimated book cost of $41,049.57 and expenses in connection with the sale of $1,000, leaving the net profit of $35,376.43. This amount of profit was credited to surplus account. In addition thereto the company transferred from depreciation reserve to surplus account a credit balance of $14,240.75, representing accrued depreciation hitherto charged to operating expenses, which the company treated as a profit.

I have examined the Company's records in connection with the sale of the South Division Headquarters Building. This building was sold in January, 1924, for the sum of $11,550. This amount was credited to depreciation reserve as a salvage realized from the building. At the same time the original cost of the building was removed from plant account and charged against the depreciation reserve, the amount being $44,871. The Company's records do not show whether or not the exact amount of the difference of $33,321 between the original cost and the salvage had been charged to operating expenses and accrued for this depreciation in the past years. A computation which I have made, based upon a rate of 4 per cent per annum, indicates that the company has accrued

approximately $25,000 in respect of this building.

(Exhibits in connection with Mr. Tholin's testimony offered in evidence, subject to cross-examination. Statement prepared by Mr. Hammond, pursuant to request of Mr. Blackman offered as Exhibit X-343, entitled "Response to Mr. Blackman's Question to Mr. Hammond on cross-examination (Record 5518)."

Exhibit X-344, being correspondence between counsel relating to requests May 7, 1932, to June 2, 1932, consisting of five letters in connection with Exhibit D-61, offered in evidence.

Exhibit X-345, which is the letters bearing upon the investment, and the cost of the investment to the American Telephone & Telegraph Company and the Western Electric,
5915 offered in evidence.)

Cross-Examination by Mr. Blackman.

Referring to my complaints about my failure to receive certain information while in New York, if I recall the date correctly, I arrived there Monday morning. I think it was September 28, 1931. I stayed there two weeks. Mr.
5916 Rainwater was with me. While there we examined certain documents, audit reports, income tax returns of the American Telephone & Telegraph Company. We had a room at 195 Broadway at that time, furnished us by the American Company, and in the adjoining room was Mr. Olander. We were told to make our requests to Mr. Olander, and that he would put them through. We were also told that Mr. Olander would explain any matters in connection with the books and papers that we wished to have explained or see that we got an explanation for it. He explained the things that we inquired about.

5917 I stated on direct examination that I went to New York "in connection with this matter." This matter was this case, generally. That is what I meant in my answer to the question as to whether I went to New York in connection with this matter.

I had a definite understanding with counsel as to what I was to request.

5918 I believe it is correct that my demands for information concerning the income tax returns of the Company,

included a demand for details of the taxes paid by each Associate Company for the years 1921 and 1930, including not only the detailed computations of the tax payments, but also the entries and billings to each of the various companies. My memorandum No. 8 called for the information for the years 1921 and 1930.

5919 I am sure I asked for that for the year 1921, and for the year 1930. My memorandum indicated that I would probably ask for the other years also, but I asked for those years, to get some knowledge, or make a spot check, as it were, of the methods that the Company used in allocating the income tax to the various companies.

The fact is that I asked for those particular years, and stated that later I would ask for the intervening years, or for the entire period 1918 to 1930.

As to whether that would have required the Company to have made somewhere in the neighborhood of 350 different computations, showing the details of the building up of these taxes for each company, I presume the Company makes its computations before it bills the Company. I could not imagine they would bill them some kind of a figure, and then not have any detail supporting it afterwards.

5920 I asked for a detailed computation showing the manner in which the figure was arrived at, a separate bill for each company, and the increases and billings. I did not ask the Company to make any copies of anything. I asked the Company to furnish me its working papers showing how they arrived at these billings. I asked them to kindly furnish details of the proportionate taxes. These details should include not only the computations of the tax payments, but also the entries and billings of the various companies.

I intended them to understand that I wanted the complete information of the amounts of taxes charged to each company, all of the detailed working papers which the Company must have had in order to compute those amounts, and
5921 the Company's record of its billings to the companies.

I presume they would have to bring me the documents and hunt them up, and so forth; there would be some work there. They didn't do that. For the Illinois Bell, we obtained the billing for 1930.

I believe we got everything we asked for, with regard to the Illinois Bell on this point that we are talking about. As

to whether we got everything that we asked for with regard to the American Company as a whole, there were no requests made in connection with the American Company as to this point. We, of course, had the income tax return which showed the computation on the books as a whole, and there was no request on this point that related to the
5922 entire American Company with its associated companies as one group.

In answer to these requests, income tax information was furnished in the following matters. I saw the consolidated ledgers for a period of time. The books were produced in the office, but that did not include the opportunity to examine as much as we wished. The books themselves contained symbols rather than full description, reference numbers to journal entries and voucher numbers and such data as that, and are of no value at all without the supporting papers, which we did not have.

In connection with those books, we were also fur-
5923 nished the general department control ledgers. I think we did not have the general department subsidiary liability ledgers. My recollection is we only had two, We had the consolidated ledgers. We had the general department control ledgers. I am quite sure we did not have the general department subsidiary liability ledgers. To my best recollection, we did not have that.

5924 We had the general department subsidiary expense ledgers. We had some journals there, I think that they are described as "transfer journals." I don't recall whether or not we had the consolidated journals. We had a few income tax vouchers. We had all the work sheets that were contained in those income tax binders covering the income tax returns for the American Company for the years 1923 to 1930. I believe we had the authorizations for the journal entries in connection with the income tax payments and charges for the American Company as a whole.

5925 I don't remember whether we had it for the other companies, the subsidiary companies. I remember that I did not obtain what I have complained about; all these other little details, as to what we might have looked at I don't remember the details. I said a few minutes ago, that I did not, by my request, intend the company to do any

work, make up any tabulations of figures and hand them to me.

In response to this request, I expected them to produce working papers showing how they calculated these charges to the various companies.

5926 The binders showing computations for the income tax did not contain the information requested in this memorandum to which you refer. The information that they did not contain is exactly what you read to me a few moments ago. I did tell you in general terms what I failed to get.

We did not get the billing to the various companies for income tax in the years 1921 and 1930, which I requested; nor did I get the detail working sheets of the company showing how they computed the amount that they billed against the various companies, with the one exception that we

5927 did get this for the Illinois Bell. For the American Company, as a consolidated proposition, we had the income tax return which showed how the income tax was determined for the purpose of filing the return with the government.

What I am really complaining of, and all I am complaining of, is that I was not shown the taxes that were billed against the New England Company, the Southwestern Company and the others of the twenty-three companies of the group. This request involved also a refusal on the part of the company to furnish any information for 1921. The company gave me that definite answer, that as far as even the Illinois Bell was concerned, the information would be refused for 1921. I am quite definite about that.

5928 I did not receive the details of the billing for taxes that I asked for in regard to the Long Lines. In response to this request, as to the Long Lines I did not get anything except what I have already told you. To say what I asked for, with regard to the Long Lines and did not get, I will probably have to go through these requests and see what items might refer to the Long Lines. That is, all these letters with the Internal Revenue Department probably refer to Long Lines, as well as other departments.

5929 I will try to let you know later what we claim was not furnished in regard to the Long Lines. The purpose of my visit to New York was to get information which

counsel sent me there to get.

That is, I did not intend while I was in New York to prosecute any particular lines of investigation. I went there to get certain information that counsel for the City of Chicago had asked me to get. As far as I was concerned, and my work was concerned, I was not interfered with in any way by the failure to get this material. I was there to get the information, and what I didn't get of course, I didn't get, and counsel probably suffered by it, but I didn't.

As to what use I would have, or what use I understood counsel to have, for the details of the billings of the taxes by the American Company to the New England Company and the Southwestern Company, I cannot speak for counsel, but I have my own ideas, as to what use I would make of it.

5930 The American Company, in making a consolidated return, receives considerable benefit in the case of companies that have losses in certain years.

In preparing a consolidated income tax return, the losses of certain companies, that have losses, are of course offset against the profits of other companies that have a profit, and the billing that theAmerican Telephone & Telegraph Company makes against the Illinois Company is for its share of the tax, as if it were paying a tax independent of the Associated Companies, and therefore the Illinois Bell does not get any of the benefit by reason of a consolidated return, where the consolidation gets the benefit of deficits of a certain company.

There were companies in the list that showed deficits in some of these years, probably some in all of the years, I don't recall the details.

5931 I testified that I was given the details and the computation of the taxes of the consolidated group of companies. That computation showed every loss. The working papers necessarily showed every loss as a deduction. We did not ask for a statement of any losses that had been 5932 made, but we asked for the billings that had been made by the American Company to each of the twenty-three associate companies. If the Company had a loss, it would have no billing against that company. I don't believe I said that the only thing that would be of any importance here was to see whether a company made a loss, or not. I believe

you misinterpreted my statement. I said, in my own mind, it would be important to know what the total billings were to the various companies and to ascertain whether or not the companies like the Illinois Bell should not have
5933 shared some in the benefits due to a consolidated income tax return by reason of the fact that certain companies had deficits, and those deficits were deducted in arriving at the total income tax. The benefits from a consolidated return are the fact, for example, that you have ten companies earning a profit and five that have lost money in that year. If the ten made separate returns, they would pay more taxes than if the fifteen companies were grouped together and the losses of the five were subtracted from the profits of the ten. So that the advantage that I speak of is the deduction of the loss.

I cannot speak for counsel whether that is the only thing that was of any importance. In my own opinion, that would be of importance. The other matter would be as to whether there was a fair allocation of tax, aside from this question of loss.

"Q. "A fair allocation of tax to the New England Company, what interest did you have in that?

5934 A. I was just speaking of the Illinois Bell."

We have all the figures to show whether there was a fair allocation to the Illinois Bell, so far as this particular point was concerned, but excluding the consideration of the losses to the other companies.

5935 In regard to asking for which of the companies had had losses, the amount of the loss and the fact that a company had made a loss was revealed in the income tax return. The billing against that company, if any, I did ask for in this request, and it was refused. As to how I was interested in what was billed against the Company, whether it had a loss or did not have a loss, if I had the fact as to what the Company did, made a loss, or made a profit, I say I was interested in the whole proposition of the apportionment of the complete income tax as between all of the companies, to see whether the Illinois Bell had what I might consider its fair share of the whole. All I was interested
5936 in, though, was whether the tax which had been allocated to the Illinois Bell was fair.

I don't know that I had all of the information to determine that fact. As to whether I can say anything that I lacked, I asked for all of the details for each of the companies to trace the allocation through.

I would not like to express my opinion as to the fair allocation to any one company without the opportunity of studying the whole state of facts dealing with the apportionment, as between all of the companies.

As to what books, papers or things that were with-
5937 held from me, which I, as an accountant, would say was in any way necessary or important for me to have in order to determine the proper allocation of the Federal income tax of the Illinois Bell Telephone Company, I don't know the names of all the books that the American Telephone & Telegraph Company has, I cannot define them by name or number. In my opinion, what I asked for was necessary. I have mentioned one thing that I asked for, that I did not get, which was necessary. I asked for these billings. I even asked for the billings for the Illinois Bell for 1921, and that was refused.

5941 (The court asked the witness whether he had everything necessary to arrive at a conclusion as to whether it was a fair apportionment and if there was anything he hadn't had bearing on the question.)

I made this particular request for that purpose, and I did not get this information. Whether I might have used some summarized facts and summarized figures, and approached the question from a different angle, I am not prepared to say just at this moment. Whether or not I could possibly have assumed some different line of approach, and arrived at some approximation as to whether it was a reasonable allocation or not, I would not like to state at this time without referring back to the working papers,
5942 which we have quite a number of, and I might, after referring to the detailed working papers, be able to express an opinion as to whether we could.

Personally I make requests every now and then for
5944 information from the Illinois Bell. I have gotten, to my recollection, everything I asked for, except there was one item some time ago that I as well as one of my men made a request for, and it was refused us at that time.

I have not made any complaint here about it, because I possibly felt that if I had pressed the matter a little further the Company might have yielded, but I was refused the Company's minute books of the directors of the Company.

5945 The particular occasion for seeing the books at that time was in connection with new construction projects authorized by the directors, and that was why I made request first through one of my men, and secondly, I made it direct. I was told that I would be furnished certified copies of those that I desired, and I, at that time, stated that I did not accept this refusal as indicating that I did not have the right to see them. I maintained that I had the right, but that I would at that time accept this certified copy of the minutes of the directors covering the items that I told the Company I was interested in at that time.

5955 *Cross-Examination by Mr. Blackman, Continued.*

(June 28, 1932.)

Pursuant to the court's request, I have looked over my papers and memoranda to see what data I consider necessary in order to determine the fair apportionment of the income taxes to the Illinois Bell Company, which I had asked for and failed to receive.

5956 I was refused free access to the American Company's books in connection with the tax matter of apportionment as between all of the companies that are involved in this consolidated return, and, without free access to all of the details involving all of the companies, I would not want to express my opinion as to the fairness of the charge to any one company. It may not be uniform as between companies; I have no means of knowing whether the element of uniformity is present in the Company's methods. Generally speaking, the only thing that was withheld from me was the complete details of what the American Company charged to the New England Company, the Southwestern, and the other companies of this group of twenty-three associate companies, in connection with their income taxes. I started on this

5957 investigation on the second Monday of my visit in New York. I only had that one week left. I was limited to

two weeks' time. I made this request, and it was turned down on Monday; it was refused; and I made a request on Tuesday evening, for the books of the American Telephone & Telegraph Company. I did not get them on Wednesday; to my best recollection, I did not get them until 10:30 Friday morning, and my time was very limited from then on, to make any complete investigation of the multitude of records of the American Telephone & Telegraph Company even pertaining to the American Telephone & Telegraph Company proper, or to the Illinois Bell Telephone Company apportionment; but I made whatever investigation I was able to make in that time, which was two days. The memorandum requesting those books went to the Company the last thing before closing on Tuesday evening, in pencil form; it was typewritten and delivered to Mr. Olander on Wednesday morning, and to my best recollection we did not get those books until about 10:30 Friday morning. Most of the time
5958 meanwhile we managed to keep busy on other things, but there was a little lull in there when I did not have records to work on. The income tax returns, with the details of how they had been made up on consolidated returns, were furnished promptly upon my arrival, the first Monday morning. They showed the profits or losses to the associate companies, making up the total profit of the system as a whole.

"Q. So that, in so far as any advantage to the Illinois Bell is concerned, that you are claiming, or which you might claim as accruing to it through a benefit to be derived from the loss of another company, you have that information before you?

A. We had those losses of the individual companies."
5959 I called on Mr. Olander to interpret the symbols to which I referred and things of that kind. I called on him from time to time for information that I was able to obtain from him. I have not complained of anything except these particular items, that you already know about. In addition to this matter which I asked for from the American Company, I asked for certain information from the Western Electric Company.

The matters that counsel for the defendants have referred to are items 16, 17, 18, 19 and 31, of Section 2 of my demand of October 5, 1931.

Item 16 is one in the list that counsel for the defend-
5960 ants sent the Western Electric Company, as I understand it, some time prior to my visit, and that request then called for the preparation of data by the Western Electric Company. I am not acquainted with the detailed records of the Western Electric Company, but from the looks of the question, I presume it would involve some work. I do not know whether it would probably involve about a month's work of several people—possibly quite a bit of work. I have no knowledge but that this kind of data might have been already compiled by the Western Electric Company. I do not know.

I have no knowledge whether it could have been already
5961 compiled in the form in which I was asking for it; it no doubt could have been. As to whether I was asking for a tabulation of every piece of apparatus made by the Western Electric Company to which any of the patents owned by the Western Electric Company applied, I think Question No. 16, which is in the record, speaks for itself. It calls for a statement showing by years 1911 to 1930, both inclusive, patents and applications pending owned by the Western Electric Company, and subdivided for (a) patents embodied in telephone apparatus sold to Bell licensees only; (b) patents embodied in telephone apparatus sold to American Telephone & Telegraph Company only; (c) patents embodied in telephone apparatus sold to Bell licensees, and to non-Bell customers; (e) patents embodied in non-telephone apparatus.

That apparently includes most of the items manufac-
5962 tured by the Western Electric Company, I presume. Whether there might be some others or not, I do not know. As to whether there are more than 100,000 different parts that the Western Electric Company manufactures, I have no independent knowledge of the facts; I presume there are a great multitude of parts. I do not know that the Western has several thousand patents, but I presume it has.

"Q. So that in order to do what you asked them to do, they would have had to go through that list of their piece parts and find out which of their several thousand patents applied to each particular piece part, and give you that list; is that right?

A. If it was not already prepared, I presume they would have to go through somewhat along the fashion you indicate,

and prepare it."

5963 Questions 17 and 18 refer to matters similar to Question 16.

Question 19 refers to certain index numbers. I asked for certain index numbers that had been referred to in an article published in the Journal of the American Statistical Association. Personally I had no use for that, that I know of. I was requested to get it, by counsel.

Item 31 is "To furnish statement showing for the period 1882 to 1930, both inclusive, (a) patent infringement suits against the Western Electric Company, indicating apparatus involved; (b) damages or expenses incurred or paid by Western Electric Company in connection with patent infringements." That required the making up of statements to be furnished to us by the Western Electric Company.

5964 The particular items that I made request for, called for the furnishing of statements except 19 which called for inspection. Whether those statements might have already been prepared by the American Telephone & Telegraph Company or the Western Electric Company, I do not know, but the request was for the furnishing of statements. I have no idea one way or the other whether the Western Electric Company may have had already prepared the material in the form in which I asked for it or not. Part of this material that I was asking for was a memorandum with relation to

5965 patent applications that were then pending where the patents had not been issued. Each of the three questions 16, 17 and 18 includes information with regard to patent applications as well as patents. I do not know whether the Company would or would not give it to me. I was instructed to ask for those; I expected to get whatever the Company would give. I did not know what the Company would give, but it did not give anything. I did not go into the question whether or not there was one chance in a hundred that they would give me that. I do not say that I thought that they would have this information with regard to patents pending already prepared, and would just hand it to me. I did not know what form the Company's records or compilations were in.

5966 It is my best recollection that I got these ledgers on Friday morning. I left New York the following Sunday morning. I left at that time with my work uncompleted be-

cause I was instructed that we would only have two weeks to spend in New York. When the two weeks were up, I left.

It is not a fact that I expected and asked the Company to make these tabulations in regard to tax payments, and tax computations for me, and that I did not have time sufficient to do this work for myself. I did not ask the Company to
5967 make any calculations of taxes for me. I asked for the data, but I did not obtain it in time to do it. I did not obtain the books in time to make a great deal of use of them. The other details the Company refused to furnish.

The other details that I refer to, are the separate billings to the twenty-three individual companies of the Bell System and all of the detailed computations underlying them.

(Admitted by counsel for defendants that plaintiff's counsel in answer to requests Nos. 16, 17 and 18, of counsel for the City of Chicago, stated by letter of November 24, 1931, that "The records of the American Telephone & Telegraph Company and the Western Electric Company, in so far as they disclose the information in question, will be made available for your inspection"; that with regard to Item 19, the
5968 index numbers asked for, were furnished to Touche, Niven & Company and used by them; and that on November 19, 1931, Mr. Goldstein was advised that the data was available for inspection; that with regard to Item 31,
5969 the books and records of the Company, showing the information, were put at the disposal of Mr. Goldstein on November 24, 1931.)

Redirect Examination by Mr. Goldstein.

Without the data as to the billings for income tax of the other companies, I believe there was no way in which I could tell from any records whether the other companies re-
5970 ceived any benefit from the consolidated income tax return, or were treated the same as the Illinois Bell Telephone Company. My request to look at the minute books of the Illinois Bell Telephone Company was not made at the instance of counsel for the defendants. That was a specific request to look at the books for a specific purpose.

Re-cross Examination by Mr. Blackman.

I just said in answer to Mr. Goldstein that I could not tell whether the other companies had been treated in the same way as the Illinois Bell Company, unless I got these details of the billings to those companies.

5973 As to what bearing the American Company's charges to the New England Company would have on what I was doing, I say that I was in New York getting data for counsel, and counsel wanted this information.

"Q. Well, now, so far as you know, it could not make a particle of difference whether the American Company had paid the tax of the New England Company out of its own pocket, or not—is that right?"

(Objection sustained.)

5974 As to the minute books of the Illinois Bell Telephone Company, it is not the fact that I asked to see certain resolutions with regard to additions to plant. The first request was for the minute books. Mr. Jones told me that I could not have them. I was quite anxious to get the information that I was after, and when he inquired as to what

5975 it was I wanted, I told him what I wanted, and he volunteered to give me a copy, certified copy of that section of the minute book. He gave it to me. I believe I stated yesterday that I indicated that I was not satisfied. I did not feel that we should have to put a lot of pressure on the Telephone Company, to have them reveal their minute book to us. I said yesterday that I told Mr. Jones or whoever gave me the copies of certain resolutions that I was satisfied for the present, but that I would not concede that I did not have a right to see the books.

5976 J. G. WRAY, recalled as a witness on behalf of the defendants, having been previously duly sworn, further testified as follows:

Cross-Examination by Mr. Thompson, Continued.

(June 28, 1932.)

Answering a question asked yesterday, I say now that Mr. Sloan, in arriving at the amount of the various taxes included in his computations, did not proceed upon the theory that the Illinois Bell Telephone Company would have just as many shares of stock outstanding at the start of the period as it has now or at the end of the period of reproduction.

5977 I have looked into the Indiana Bell situation which you inquired about yesterday. I testified in the Indiana Bell case in the Federal Court, and there stated that through members of my staff I had checked the five year average unit costs used by the company, the ten year average unit costs used by the company, and the unit cost as of November 1922. I then testified that these unit costs reasonably represented the actual costs during the period.

I did not take a representative weighted plant for each of the years 1913 to 1922, for each account, as for instance, Central Office Equipment, Account 221; Mr. Halstead did not

5978 either. Mr. Halstead took a representative cross section of the plant as of the date of the inventory, December 31, 1920, and that was the only cross section used. That was priced out at prices for each of the years 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921 and 1922. After that was done, then he found the average unit costs, 1916 to 1930, and I approved it.

Referring to Exhibit A-238, eighth column opposite Account 221, Central Office Equipment, I did not find a conversion factor of 94.46 to convert Central Office Equipment from the five year unit cost to the ten year unit cost, 1913 to

5979 1922.

"Q. Mr. Halstead found it and you approved the use of it?

A. I did not approve the use of it."

In getting at the valuation of the property as a whole, there

was no way in which I could approve the reproduction costs that were used as I did in my testimony unless I approved the method that Mr. Halstead used in getting at them.

(Counsel reads from testimony of witness in Indiana case as follows):

"Q. What did you find as a result of making these checks as to whether the unit costs used by the company were reasonably representative of the actual costs of telephone construction during these several years?

Answer: They do reasonably represent the actual cost during this period."

Just before that question was asked and I had made that answer I had stated that I had checked the unit costs for all three or these appraisal dates. The testimony was that
5980 the appraisals reasonably reflected the five years, and the ten year, and the instant prices. It did not go further than that.

Referring to page 499 of the record in the Indiana Case, I stated that these unit costs reasonably reflected the actual costs during these periods. I know the process that was used to take the five year average costs and to obtain the ten year average costs by the use of a conversion factor. This
5981 was a period of rapidly changing prices during and immediately following the war, and during that period we undertook to get approximately average prices for five years, seven years, ten years and instant prices, and trend of prices, all with the view of getting at a fair price. It covers a very small portion of the same period of time, that is covered by Mr. Sloan's work in this case. As to whether it covers ten years of Mr. Sloan's appraisal as of June 30, 1923, of course I am not very familiar with that appraisal.

I do not recall that I have criticized Mr. Sloan's use of conversion factors here in this case. I did not arrive in the Indiana case at a conversion factor or approve the use of
5982 a conversion factor of 94.46 per cent for Central Office Equipment, Account 221, and then in order to arrive at the appraisal for the Muncie property, and the Indianapolis property, and every other exchange in the state of Indiana, applied that same identical conversion factor to get the Central Office Equipment account from the one level to the other level and then to the third level. I did not approve any of

these conversion factors as such. I tested Mr. Halstead's appraisal by the unit costs which I had checked against the company's actual costs, and also against the studies which we had made of 5 year average costs, ten year average costs, trend costs and instant costs in the Muncie case, in a previous case.

I was called to testify that the unit prices used, and
5983 the reproduction testified to by the company's experts for the three periods, 1916 to 1920, 1913 to 1922, and spot November, 1922, were representative of the actual costs. The Company did not get those reproduction costs for those periods by first getting them for 1916 to 1920, and then converting, by means of a conversion factor, to 1913 to 1922, and then converting the 1916 to 1920 costs by a conversion factor, to get it to November, 1922. They had to go to the books and records in order to get the facts from which to make the conversion factors.

In Exhibit A-238, referring to the Muncie Exchange, I note
in 1916 to 1920, cost of reproduction, Account 221, is
5984 $119,560, that is Central Office Equipment.

For the next period, 1913 to 1932, I note the conversion per cent opposite Central Office Equipment. It is 94.46 per cent. I presume that that factor, for that period, applied to reproduction cost new of the earlier period gives the exact figure that is used here to the cent.

In this other column, November 1922, "conversion per cent," opposite Central Office Equipment, Account 221, the conversion per cent is 134.57, and that applied to the 5 year reproduction cost, I presume, gives the exact figure that
5985 is set out there, $16,089.89.

You did not ask me whether these conversion factors were used to get reproduction costs. Mr. Halstead did use such factor in his reproduction cost.

Exhibit A-239 shows that apparently Mr. Halstead took 94.46 per cent and applied it to Central Office Equipment in the Muncie Exchange area. That however is not my valuation; I made a separate valuation a short time before.

5986 In Exhibit A-242, for the Indianapolis Exchange, Account 221, Central Office Equipment, the same identical conversion factor appears. That is Mr. Halstead's figure, not mine. The company introduced evidence showing the reproduction costs for these three periods which were arrived at

by the use of conversion factors based on a single cross section of plant, representing the inventory as of an in-
5987 stant date. Then having obtained these conversion factors, it applied them to the Muncie Exchange that contained only manual central office equipment. It applied them to the Indianapolis Exchange which had some step-by-step equipment, I do not remember the number of central office installations.

I knew all those facts, was thoroughly familiar with them, and I went into court and said to the court in effect: "I examined the company's methods and I say that the unit costs that have been used for those three periods fairly represent the actual reproduction costs for those periods for the company as a whole." I did not for each of the several exchanges.

5988 "Q. Well, would it vary—in other words, you could apply the conversion factor that was based on a cross section that had no step-by-step equipment in it to the entire state, and it would be all right, but you could not apply it to one exchange?

A. No, perhaps not, but I did not apply it to any exchange."

I approved the unit costs and nothing else. I did not approve any method. I not only approved the unit costs, but I said they fairly represented the reproduction cost for the three periods, and I checked the company's unit costs, and I gave my own testimony with regard to the value of the property as a whole, and not for the separate exchanges. These conversion factors meant nothing unless they are
5989 checked against the prices and actual costs of the company, and those checks were made by us. I checked them. I had nothing to do with the conversion factors. I checked the unit prices. Mr. Halstead computed any conversion factors that he may have used. We had nothing to do with it.

In my testimony in the Indiana case, I think that I did not offer any affirmative criticism of the method which had been used by Mr. Halstead.

Redirect Examination by Mr. Goldstein.

5990 The essential difference between the use of the weighted cross section in the Indiana Bell case and as used by Mr. Sloan in this case, is that the weighted average cross section used in the Indiana case purported to represent the fair cross section of the plant as of a single date as found by an inventory. The cross section used by Mr. Sloan is one that is presumed to represent the necessarily varying cross sections of gross additions from year to year throughout a period. It is my understanding that Mr. Sloan figured a cross section for each of the years as being the same as the typical cross section which he found for one year; whereas, in the Indiana Bell case I had only one cross section, and dealt with that one cross section for that year, and assumed nothing for the other years.

5991 My use of the unit cost in the different years was wholly to determine average prices of a five and a ten-year period, and for instant prices, nothing else.

Mr. Thompson was counsel for the Indiana Bell for whom I was testifying in that case.

(Objection by Plaintiff.)

I was heretofore asked whether in the Indiana Bell case I approved the cost of representative weighted plant for each of the years 1913 to 1922, based on a constant cross sec-

5992 tion of plant and I answered, "I don't remember." The answer to that question is, no. The fact is that the cross section of plant referred to applied only to the inventory as of December 31, 1920. It was not applied to other plant or gross additions of any other year. In each case, where I dealt with a weighted cross section in the Indiana Bell case, my answer would be the same, that the cross-section referred to was that of December 31, 1920 and not of any other year.

5993 The 5/10 of 1 per cent variation for the step-by-step lines, as shown on the first page of Exhibit X-313, would have meant a 40 per cent variation.

With reference to the $2,000,000 step-by-step equipment sold to the Illinois Bell, in the Chicago area in 1924 to 1930, as Mr. Thompson stated, I understood that lines of the step-by-step type as set out in this table, referred only to the cen-

tral office equipment. The $2,000,000 referred to by Mr. Thompson is included in the exhibit in the 700 type of P.B.X. lines which was given to us by the company. If they have been omitted, they were omitted by the company in furnishing the data to me.

I have prepared a chart which will simplify Exhibits X-313 and X-317.

5994 Exhibits 313-A, entitled "Ill. Bell Tel. Co.—Chicago Rate Case—Quantities sold to Ill. Bell Tel. Co. and to total Bell System, 1924-1930, graphs," and 317-A, entitled "Ill. Bell. Tel. Co.—Chicago Rate Case—Cross section of Estimated Quantities of Materials to be delivered by W. E. Co. to each Associated Co. Period 1922-1932—11 years—Quantities from Provisional Estimates," were prepared by me. I think they are entirely self-explanatory. There is no new material here. The charts show only the percentages set out in these exhibits, respectively. Referring to chart X-313-A, the percentages to be found in Exhibit X-313 are plotted in the vertical lines—a vertical line representing an item. They are plotted for each year. Each year begins at zero per cent, and by an inspection of the chart, you get the relationship of these percentages, one to another, for the different items and for the different years.

And in chart X-317-A, in a similar way we have plotted the

5995 percentages shown on the first sheet of Exhibit X-317, those being percentages computed from data obtained from the provisional estimates. The data plotted on Exhibit X-313-A were obtained from the second sheet of Exhibit X-313, which were furnished to me by Mr. Wright. Across the bottom of this chart I listed the 32 items that are shown in the table. At the left hand of the chart is indicated the company. Each separate graph across the chart from left to right is a company. The total of the percentages of all of the companies for an item is 100 per cent, because it is representative of all the items. It is the total from the bottom to the top. It simply shows graphically what the percentages themselves show.

(Corrected sheets for Exhibits X-8-A and X-9-A offered in evidence.)

Re-cross Examination by Mr. Thompson.

"Q. Of course you know, Mr. Wray, that I didn't ask you about the step-by-step equipment that was shown on any exhibit; you know that, don't you?

A. I think your question related to step-by-step equipment, and my exhibit related to step-by-step lines, and I at the
5996 time did not differentiate, but have learned to do that since I have gone into the matter.

Q. No, Mr. Wray. You have stated here on your redirect examination that if any mistake arose in this connection, it was because the company may have omitted something from an exhibit, didn't you?

A. Yes.

Q. Now, you know that I didn't ask you about an exhibit at all. I asked you about your oral testimony in which you had stated that there was no step-by-step equipment in the Chicago area of the Illinois Bell Telephone Company?

A. I cannot remember whether I said step-by-step equipment or step-by-step lines, but the exhibit—

Q. I can remember, when I read that question to you, you said step-by-step equipment; you don't know that, do you?

A. I do not remember.

Q. After you had made that mistake, then you came back and tried to make it appear that you were induced to make an error by something appearing on an exhibit.

A. There is no such thing. I can clear that up in a moment.

5997 Q. Yes.

A. At the time of my testimony yesterday, I overlooked the fact that the step-by-step equipment is included to a certain extent with the P. B. X. of the No. 700 type, and there listed as items at the—they are the last three items of the switchboard group on the first page of Exhibit X-313. Those switchboards include panel—include step-by-step equipment.

Q. Yes, I understand.

A. My testimony with regard to step-by-step lines necessarily referred to central office equipment.

Q. I am just asking you this—

A. May I just make one further statement Mr. Thompson?

Q. Certainly.

A. If any step-by-step equipment relating to P. B. X. lines in Chicago have been omitted, it has been by the company, because I have checked the data that they furnished.

Q. Who says they have been omitted?

A. I did not.

Q. No, neither do I. Just to close this issue, what I asked you was, you had testified not in connection with an exhibit. It may have been after an exhibit was handed to you, but you had made the direct statement here in court that the
5998 Chicago area had no step-by-step equipment, didn't you?

A. I think I did.

Q. Yes.

A. But I do not remember, but I had in mind the step-by-step lines of this exhibit.

Q. All there was to that was that you were mistaken about what you had stated, and the company did not induce your mistake by anything that was omitted from any exhibit?

A. No, not at all."

There is no panel type of equipment in the weighted cross section of plant in Exhibit A-212. Exhibit A-212 is entitled by the company in this table, as "Indiana Bell Telephone Company representative weighted plant, central office telephone equipment, account 221."

5999 There is no step-by-step central office equipment in that representative weighted plant. Its use was not approved by me with respect to offices containing step-by-step equipment. Its use was approved by me for the property as a whole as representing fairly the spread of prices among the various items of the central office equipment.

"Q. Notwithstanding the fact that it contains no step-by-step items, and there were many step-by-step offices in Indiana?

A. Well, an answer to that question would commit me to your statement that there are many step-by-step offices in Indiana. There are very few."

There may have been eight in Indianapolis at the time. I do not know of any in South Bend at the time. I do not remember whether there was a step-by-step office in South Bend.

Re-redirect Examination by Mr. Goldstein.

In the Indiana Bell case, I had no issue of the effect of
6000 standard costs on Western Electric prices. That issue
did not come up.

"Mr. Thompson: The plaintiff objects to the introduction in evidence of each of the following exhibits offered by the defendants for the reason separately stated in connection with each of said exhibits:

Exhibit X-99, X-294 and X-295 because they show returns based on "original dollars" invested in the Western Electric Company, and wholly ignore for the purpose of arriving at the return on investment, moneys earned and left in the business upon which the company and its stockholders are entitled to earn a return.

Objection is also made to the introduction of each of these exhibits, X-294 and X-295, because the redemption of preferred stock by the Western Electric Company in 1920 is treated as a cash dividend in total disregard of the undisputed evidence in this case.

The plaintiff also objects to these three exhibits, X-99,
X-294 and X-295, because in all of the exhibits there is
6001 included as a dividend in the year 1927, $45,000,000 declared in that year, earned by the Western Electric Company in the years 1882 to 1927.

The plaintiff objects to the introduction in evidence of Exhibits X-84, X-85, X-87 and X-88, which are entitled, "Western Electric Company, Inc. and subsidiaries, Consolidated average investment, profits and percentage of return," because for the year 1930 there has been erroneously eliminated from average investment, the sum of $12,000,000 on account of an item of good-will of the Teletype Corporation for which the Western Electric Company paid cash, which is admitted by the defendants' witnesses. The result is that each of these exhibits reflects for the year 1930 an erroneous average investment and an erroneous rate of return.

Exhibits X-86, X-87 and X-88 are also objected to on the ground that there is included in each of these exhibits for the year 1925 a profit on the sale of the International Western

Electric Company, which profit related itself to non-Bell business transacted abroad from the period 1882 to 1925, and inasmuch as these exhibits only purport to reflect the consolidated earnings for the period 1916 to 1930, such inclusion of profit on sale of the International Telephone &
6002 Telegraph Company is wholly erroneous for the period prior to 1916. So far as Exhibits X-84 and X85 are concerned, the objections just made are in addition to those made heretofore.

Exhibits X-54, X-55, X-57, X-58, X-60, X-61, X-63 and X-64 are each objected to, because there has been eliminated from average investment $34,900,000 of claimed excess cash items which is not justified under the evidence in this case, and also because two-thirds of the claimed excess cash so eliminated from average investment was for the year 1925, during which year the Western Electric Company earned 5 per cent on its cash and cash items, and in each of these exhibits the earnings for 1925 are only reduced by 2½ per cent on account of the claimed excess cash, which is eliminated from average investment. The result is that in this one particular the profits of the Western Electric Company are over stated, even on the theory of these exhibits, which is not admitted to be correct at all for the years 1925 by $514,000.

Exhibits X-50, and X-53 to X-58, both inclusive, each of these exhibits is objected to on the additional ground that the Western Electric Company's profits on its Bell business are over stated by approximately $1,500,000 because of
6003 an erroneous apportionment of adjustments for pension fund accruals.

Exhibits X-317, X317-A, X-318 and X-319 are objected to because these exhibits, and each of them, which are apparently offered for the purpose of showing that Western Electric Company sales to the Illinois Bell Telephone Company are not a fair cross section of its total sales to Bell customers, and are objectionable, and without any probative value because of each of the following facts admitted by the witness who prepared them:

First: They deal only with the number of items and not with dollar purchases by either the Illinois Bell Telephone Company or any of the Bell associated companies. In other words, there is no weighting at all of any of the items.

Second: All the figures on these exhibits are taken from provisional estimates prepared by the Bell associated companies in which they forecast their requirements for a period of two to fourteen months in advance. It is admitted that neither the total requirement nor the requirements in the several classifications contained on the exhibit and shown on the provisional estimates, are actually purchased by
6004 these companies. In other words, their purchases are something different from their estimated requirements.

Third: It is further admitted that there is nothing in any of these exhibits from which it is possible to tell either the profit on sales or the earnings on investment of the Western Electric Company in its business with the Illinois Bell Telephone Company or the Chicago area as compared with its total business.

These exhibits are, therefore, wholly meaningless. In addition, Exhibit X-319 is objected to because it has all the infirmities of the other two exhibits, and in addition it is based on a forecast for more than three years in advance.

Exhibits X-313 and X-313-A are objected to for the reason that these exhibits, while dealing with articles sold to the Illinois Bell Telephone Company and to the total Bell System by the Western Electric Company, deal with items only and not with dollar purchases. It is admitted that there is no weighting by dollar purchases and that the exhibits give no information as to the profit on sales or earnings on investment of the Western Electric Company in the business done by it with the Illinois Bell Telephone Company as com-
6005 pared with its total business.

Exhibit X-314 is objected to for the same reason as Exhibits X-313 and X-313-A.

Exhibits X-67, X-69, X-72, X-81 and X-82 are objected to because they show returns based on "original dollars" invested in the companies shown in these exhibits and wholly ignore for the purpose of arriving at the return on investment, moneys earned and left in the business upon which the company and its stockholders are entitled to earn a return.

Exhibit X-67 is also objected to because it includes for 1925 a profit of $16,000,000 on the sale of the International Western Electric Company which profit relates to the years 1882 to 1925.

And, last, Exhibits X-69 and X-70, which include dividends received from Western Electric Company, Ltd., of London, which dividends related to profits in a period prior to 1918, as well as subsequent thereto.

6006 Mr. Goldstein: I want to know if your Honor wants to hear from us as to each of these objections?

The Court: Well, now, my understanding is that in admitting compilations of tables of this kind the court does not approve the bases on which they are made, nor the argument which it is claimed they advance. The tabulations are prepared in order to show a result which follows certain assumptions. If the assumptions are incomplete or erroneous, the result which it is claimed they show would be disregarded. I think they should be admitted in evidence, like anything else, which is offered by an expert to aid counsel in arguing the case. But, as I said, in receiving them, the court does not place a stamp of approval upon the theory upon which the tabulation is made

Mr. Thompson: Of course, I am certain of that, your Honor, only that I had in mind—the only thought I had in mind was this: If there is a difference in theory between two parties, each of course is entitled to put in an exhibit based upon his theory.

The Court: Yes.

Mr. Thompson: Now, with reference to most of these
6007 exhibits—and I am not attempting to argue what the facts are—it is our position that there are admitted errors in the exhibits and that therefore, whether the court should exclude them or not, presents a different question, but laying that question aside for the present, the objections ought to be specifically made, pointing out those things.

The Court: Yes.

Mr. Thompson: So that they may appear on the face of the exhibits.

6008 Mr. Goldstein: If your Honor please, Mr. Thompson just made a statement which was very serious for us, in that he states, as I understand it, that he proposes to place these objections on the face of the exhibits themselves, in conformity, I presume, with your Honor's statement the other day. If that is so, then we want to have the right to examine his objections and make our answers to them, because there

is a conclusive answer to each one of them, and it would be unfair to have his objections stand without our answer, if they are to be placed on the exhibit and not in the record.

6009 The Court: Now, Mr. Goldstein says you made objections here. He says he has an answer to your objections. It is proper for him, before the record is closed, to state here what his answer to your objections is, and that answer may accompany your objections.

Mr. Goldstein: Certainly.

The Court: In the preparation of the volume of exhibits."

6010 R. C. RAINWATER, a witness on behalf of defendants, having been previously duly sworn, resumed the stand and testified further as follows:

Direct Examination by Mr. Goldstein.

(June 28, 1932.)

Defendants' Exhibit X-328, consists of three pages. Page 1 is entitled "Illinois Bell Telephone Company, Chicago Division—Comparison of revenues and expenses and return on average fixed capital and material and supplies, less accrued depreciation, years 1923 to 1931, inclusive"; page 2 has the same heading, excepting the reference is to "Chicago Division, intrastate"; page 3 has the same heading except that it has reference to the "Chicago Division intrastate exchange." This exhibit was compiled from Plaintiff's Exhibits A-49 and A-53, as to all figures except the following: The reserve for accrued depreciation, and the reserve for intangible capital were taken from the books of the company. There was excluded from the company's figures of miscellaneous revenues shown in A-49, Account 313, interest revenue, and Account 314, sinking and other reserve fund accretions. There was added to the company's figures of miscellaneous revenues the portion of Account 311,

6011 miscellaneous rent revenues, which were excluded from A-49. There was added to the company's figures of expenses shown in A-49 the amount for Account 320, rent expense, shown on the books of the company. The taxes

were set up on the basis of accruals shown by the books of the company. All changes in the revenues and expenses were made to agree with the accounting classification used in connection with the income showing of the various licensee companies.

X-328 shows for the Chicago Division, Chicago Division Intrastate and for the Chicago Division Intrastate Exchange, the revenues and expenses and returns on average fixed capital and materials and supplies, less accrued depreciation, on the same basis as that shown in Exhibits X-299 and X-300 for all licensees so as to serve as a basis of comparison between them and the plaintiff.

The separation of the figures of the Chicago Division into those of the Chicago Division Intrastate and Chicago Division Intrastate Exchange were the company's figures as to all items contained in A-49 and A-53. Those taken
6012 from the books of the company were apportioned on the basis of similar items shown in A-49. The depreciation reserve was apportioned on the basis of plant, using the average fixed capital shown in A-53.

Defendants' Exhibit X-329, consisting of four sheets, is entitled, "Illinois Bell Telephone Company—Entire Company—Return on average fixed capital and materials and supplies, less average accrued depreciation, in excess of the average return of *other* licensee companies of American Telephone & Telegraph Company during the years 1923 to 1930, inclusive," on page 1; on page 2, the same thing for the year 1931, and on page 3, the same thing excepting the return is on the basis of comparison with all licensee companies, and page 4 for the year 1931 on the basis of all. It was compiled from the following sources:

Page 1, line 1 comes from X-300;
Line 2 comes from X-300;
Line 3 is a computation;
Line 4 comes from X-302;
Line 5 is self-explanatory.

6013 Line 6 shows that the net income available for return under the existing rates exceeded the average return of the other licensees by the amount in each of the years beginning with the year 1923:

Line 7 shows the effect of the reduction in rates due to

the attacked order, as shown by the plaintiff in Exhibits A-52 and A-63;

Line 8 shows the amount by which the net earnings available for return under the attacked rates on the plaintiff's showing would exceed or would fall short of the average return of the other licensee companies;

Line 9 gives effect to the amount by which the Illinois Bell license payment exceeded that of the other licensee companis for each of the years beginning with the year 1923, as we computed the same in X-146 from the figures furnished us by Mr. Heiss prior to the trial;

Line 11 gives effect to the amount by which the company's depreciation expense as recorded on its books exceeded the Illinois Commerce Commission order as we computed
6014 the same in X-158;

Sub-section (b) of line 11 is an additional adjustment which we made in order to give effect to the difference in the depreciation reserve which would have resulted from the use of the Commission's allowance.

This amount is shown in old Exhibit X-521, which was sent to the company. It should be noted that no adjustment is made in this exhibit for the intrastate separation, as naturally it takes the whole company figures into account.

Page 2 covers the year 1931 and is similar to page 1, excepting only that it does not take into account any adjustment of the year 1931 for the license contract, as we have only worked out for that year the adjustment for the Chicago Division.

Page 3 is similar to page 1, excepting that the comparison is on the basis of all companies instead of other companies. The adjustment of the license contract payments by comparison of all companies instead of others is shown in old Exhibit X-558, which was sent to the company.

6015 The adjustment shown as 11 (b) came from old Exhibit X-516, which was sent to the company.

Page 4 is on the basis of comparison of all licensees for the year 1931. No adjustment was made for the license contract discrimination for the year 1931 for the reason already stated.

The adjustments shown in line 11B came from old Exhibit X-517.

Wherever I say "old exhibit sent to the company," I mean the sheets which were sent to the company, but have not been furnished as exhibits, but have been used as working papers.

Defendants' Exhibit X-330, consisting of two pages, is entitled, "Illinois Bell Telephone Company, Chicago Division," "Return on Average Fixed Capital and Materials and Supplies, less average accrued depreciation, in excess of the average return of other licensee companies of American Telephone & Telegraph Company, during years 1923 to 1930, inclusive," on page 1, and page 2 the same thing excepting the comparison is for all companies. It is a
6016 computation prepared on the same basis as X-329, excepting that it refers to the Chicago Division. The sources for X-330, in addition to those used in X-329, are X-328 and X-147 and old Exhibits X-562, X-521, and X-520, which were work sheets sent to the company.

Defendants' Exhibit X-331, is entitled, "Illinois Bell Telephone Company, Chicago Division Intrastate—Return on average fixed capital and materials and supplies, less average accrued depreciation in excess of the average return of other licensee companies of American Telephone & Telegraph Company during years 1923 to 1930, inclusive," on page 1, and page 2, has the same heading except the words, "All licensee companies," appears instead of "Other licensee companies." It is computed on the same basis as X-330, excepting that it gives effect to the additional factor of adjustment due to the change in the method of separating the revenues and expenses between the Chicago Division Intrastate, Chicago Division Interstate, and Chicago Division Intrastate Exchange, as made by the defendants in Exhibits X-264
6017 to X-270-B, rather than as made by the plaintiff.

Item 13-A, additional return of Chicago Division Intrastate, due to adjustment of depreciation expense was computed on the basis of the company's apportionment in A-49 of the depreciation and maintenance expenses.

Item 13-B was taken from old Exhibits X-523 and X-522.

Defendants' Exhibit X-332 is entitled, "Illinois Bell Telephone Company, Chicago Division Intrastate Exchange, Return on average fixed capital and materials and supplies, less average accrued depreciation, in excess of the average return of other licensee companies of American Telephone & Tele-

graph Company, during the years 1923 to 1930, inclusive," on page 1, and page 2 is the same except the comparison is with "all companies" instead of "others." It is a computation compiled on the same basis as X-331, and shows the basis of the comparison for the Chicago Division Intrastate Exchange only.

Defendants' Exhibit X-333 is entitled, "Illinois Bell Telephone Company, Chicago Division—Return on average fixed capital and materials and supplies, less average accrued
6018 depreciation, in excess of the average return of other licensee companies of A. T. & T. Company, after adding return due to adjustment of license payments on the basis of Plaintiff's Exhibit A-170, during the years 1923 to 1930, inclusive," on page 1, and on page 2, the same except that the word "all" is substituted for the word "other." It shows the final figures for the Chicago Division, Chicago Division Intrastate and Chicago Division Intrastate Exchange in X-330, X-331 and X-332 for 1923 to 1930, and makes the additional adjustment for the license contract payment to give effect to the showing of the Chicago Division under the license contract which has been computed from the figures shown in Heiss' Exhibit A-170 and underlying exhibits.

Item 2 of the first page is the difference between X-147 and X-151.

Item 2 of the second page is the difference between our computations as shown in the working papers sent to the plaintiff, old No. X-562 and old No. X-568.

Defendants' Exhibit X-334, entitled, "Illinois Bell Telephone Company, Chicago Division. Return on Average Fixed Capital and Materials and Supplies, less Average Accrued Depreciation in excess of the Average Return of other Licensee Companies of American Telephone & Telegraph Company during the year 1931," on page 1, and page 2 is the same except the word "all" is substituted for "others," for
6019 the year 1931 makes the same sort of a comparison as shown on X-333 for the previous years, and the adjustment shown as Item 11, Additional Return of Chicago Division due to adjustment of license payment on basis of other licensees, was taken from X-151 and the working papers sent to the company designated as old X-571.

Defendants' Exhibit X-335 is entitled, "Illinois Bell Tele-

phone Company, Entire Company, Average Cost of Funds used in Business, eight years, 1923 to 1930." It is a computation showing, for the Illinois Bell, the average cost of funds used in business, and is prepared in similar manner to A-164.

The figures were taken from the books of the company,
6020 the details of which appear in the old exhibit numbers X-252 to X-259, which Mr. Blackman identified as A-219 and which I understand are to be offered by him.

6021 Excepting in those exhibits where the comparison is made between the Illinois Bell and the other licensee companies, and excepting for the Exhibits X-273 and X-274, which were prepared to furnish the details as a basis for comparison with the other licensee companies, all of my exhibits which make use of the item of interest on loans paid by the Illinois Bell to the A. T. & T. use the figures of actual interest shown on the books of the company and as appear in Exhibit A-219, being the old Exhibits X-252 to X-259.

Defendants' Exhibit X-336, entitled "Ill. Bell Tel. Co.—Statement of Chicago Division, Chicago Division Intrastate and Chicago Division Intrastate Exchange, showing net income required to cover all interest, amortization of bond discount and expense, and an 8 per cent dividend together
6022 with resultant rates of return on the plaintiff's showing of average reproduction cost and average book cost, including materials and supplies and cash working capital during the years 1923 to 1930, inclusive," is a computation showing, for each year from 1923 to 1930, net income required to cover all interest, amortization of bond discount and expense and an 8 per cent dividend, together with resultant rates of return on plaintiff's showing of average reproduction cost and average book cost, including materials and supplies and cash working capital.

Line 1 was taken from Exhibit A-219 and is self-explanatory.

Line 2 shows the per cent of return on the plaintiff's showing of rate base on book cost, line 18, and on reproduction cost, line 11 of Exhibit A-53, which would be required to produce the amount of income shown in item 1.

Exhibit X-337, entitled "Ill. Bell Tel. Co.—Chicago Division—Statement showing the net earnings per share available for the stockholders of the Ill. Bell Tel. Co. and the average

earnings available for A. T. & T. Co. stockholders on their proportionate investment in capital stock of A. T. & T. Co. which would result from varying rates of return on the plaintiff's showing of average book cost including materials and supplies and cash working capital, during years 1923-1930, incl.; same for average reproduction cost," applies varying rates of return to the plaintiff's showing of rate base in A-53 on the basis of book cost, line 18, and on the basis of
6023 reproduction cost, line 11, and shows how much the net earnings available for return resulting from such percentages would be per share of capital stock of the Illinois Bell.

In the second column, for each year it shows the average net earnings per share on the A. T. & T. stock resulting from the net earnings per share on the Illinois Bell stock, on the basis of the A. T. & T. Company paying par for the stock of the Illinois Bell, and on the basis of the A. T. & T. procuring the funds for such purchase of stock from the sources and in the proportions shown by Mr. Heiss in A-164 and in my Exhibit X-108.

I used the A. T. & T. purchase of the Illinois Bell's stock purchased at par, because the Illinois Bell's history shows that the total premiums received by the Illinois Bell for the purchase of stock throughout its entire history was only $4,000.

Exhibit X-338 is entitled "Ill. Bell Tel. Co.—Chicago Division—Plaintiff's Exhibit A-53, adjusted for rate base of book cost of plant, less depreciation, etc., years 1923 to 1930," on page 1, and on page 2 for the year 1931, adjusts the
6024 plaintiff's showing in A-53 on the basis of book cost on line 18 by the following adjustments:

1. The average going value was computed on the basis of the percentage relationship of the going value set forth in the Illinois Commerce Commission's order of August 16, 1923, to the book cost at December 31, 1922, and similar percentages applied to book cost for each of the years 1923 to 1930.

2. Depreciation reserve is deducted. Depreciation reserve is computed to give effect to the Illinois Commerce Commission's allowance for depreciation.

3. Construction work in progress was deducted from the plaintiff's showing.

Exhibit X-339, entitled "Ill. Bell Tel. Co.—Chicago Division—Plaintiff's Exhibit A-53, adjusted for rate base of reproduction cost of plant, less depreciation, 1923 to 1931," adjusts the plaintiff's showing on reproduction cost, line 17, to give effect to the following:

1. Deduction of construction work in progress.

6025 2. Adjusts going value to the amount stated in X-338.

3. Deducts the entire amount of the depreciation reserve in full, as shown on the books of the company, but raised to represent the same percentage of the reproduction new of the property as shown in A-41 as the per cent of the depreciation reserve was to the book cost of the plant.

4. Computes the depreciation reserve on the basis of giving effect to the Illinois Commerce Commission's allowance for depreciation.

Exhibit X-340, consisting of four pages, entitled "Ill. Bell Tel. Co.—Chicago Division—Plaintiff's Exhibit A-53 adjusted for net income available for return under rates in suit and for rate base during years 1923 to 1931; same for Chicago Division Intrastate and for Chicago Division Intrastate Exchange, 1923-1930, incl.," adjusts the income in Plaintiff's Exhibit A-53 to give effect to the (1) adjustment of the license contract payments as we computed the same on the basis of the information furnished us by Mr. Heiss prior to the trial, as shown in X-147;

6026 (2) The adjustment of depreciation expense due to the application of the Illinois Commerce Commission order, instead of the company's computation of the depreciation expense as shown in X-158; and

(3) To the defendants' separation of the Chicago Division Intrastate and Chicago Division Intrastate Exchange figures as shown in Exhibits X-264 to X-270B, and also gives effect to the rate base as adjusted, as shown in X-338 and X-339.

For the year 1931 full effect is given to the adjustments on account of license payments arising from the computations made on the basis of A-170, as shown in X-151.

For the previous years, 1923 to 1930, as already stated, we have only included such adjustment for license contract payment as we computed from the figures furnished us by Mr. Heiss prior to the trial, as shown in X-147; but, as shown in Exhibit X-333, we have an additional adjustment resulting

— from our computation made from Mr. Heiss' figures
6027 on license contract which were offered as Exhibit A-170.

That is, to clear this up for the years 1923 to 1930, my exhibits only show the adjustments based upon the documents which Mr. Heiss sent me prior to the trial, and in X-333 I have an additional adjustment, resulting from the additional documents which were furnished during the trial, in A-170. These are not reflected in Exhibit X-340, and I am now about to state what they are.

By giving effect to the additional adjustment for license payment, the percentages in line 9 of X-340, page 1, would be raised from the figures shown for each of the years 1923 to 1930, to the following:

The year 1923, 9.37;
The year 1924, 8.67;
The year 1925, 8.19;
The year 1926, 7.98;
The year 1927, 7.98;
The year 1928, 8.17;
The year 1929, 9.33;
The year 1930, 8.27.

Similarly, in line 11 in X-340, the figures would be
6028 raised from the percentages shown on that line for each of the years 1923 to 1930, to the following:

1923, 6.35;
1924, 6.18;
1925, 6.06;
1926, 6.20;
1927, 6.48;
1928, 6.81;
1929, 7.87;
1930, 6.98.

In X-340, page 2, the figures would be increased as follows:

The year 1923, line 9, 9.27;
The year 1923, line 11, 6.28;
The year 1924, line 9, 8.49;
The year 1924, line 11, 6.05;
The year 1925, line 9, 8.03;
The year 1925, line 11, 5.94;
The year 1926, line 9, 7.75;
The year 1926, line 11, 6.03;

The year 1927, line 9, 7.74;
The years 1927, line 11, 6.29;
The year 1928, line 9, 8.01;
6029 The year 1928, line 11, 6.68;
The year 1929, line 9, 9.05;
The year 1929, line 11, 7.63;
The year 1930, line 9, 7.91;
The year 1930, line 11, 6.67.

Page 3 of X-340, the figures would be increased as follows:
For 1923, line 9, 9.45; line 11, 6.40;
For 1924, line 9, 8.54; line 11, 6.08;
For 1925, line 9, 7.98; line 11, 5.91;
For 1926, line 9, 7.60; line 11, 5.91;
For 1927, line 9, 7.61; line 11, 6.19;
For 1928, line 9, 7.93; line 11, 6.61;
For 1929, line 9, 9.20; line 11, 7.75;
For 1930, line 9, 8.16; line 11, 6.88.

I have examined the following reports: MR-1, MR-22A, MR-22B, provisional estimate statement A for the year 1931, provisional estimate statement E for the years 1924 to 1930, the annual reports of directors of Illinois Bell to its stockholders, 1929 to 1931, annual reports of the A. T. & T. to its stockholders, 1920 to 1931, Bell Telephone securities
6030 manuals for the years 1923 to 1930, CR-51A for the years 1929 and 1931, CR-53, 1923 to 1930, CR-67, CR-67A, CR-76 and CR-97.

I found as follows:

MR-1, line 46, year 1929, shows "Balance net profit to average common stock."

MR-22A, year 1929, shows comparison of average of actual results with provisional estimates; line 26, "Balance net profit to average common stock";

MR-22B shows, sheet 1, the year 1929, line 26, "Balance net profit to average common stock (annual basis)."

6031 Provisional Estimate A, year 1931, line 41, shows "Balance net profits (after preferred dividend) to average common stock";

Provisional Estimate E, years 1924 to 1930, shows "Balance net profits to average common stock";

Annual reports of directors of Illinois Bell Telephone Company to stockholders, year 1929, page 1; year 1930, page 1;

year 1931, page 1, show net profits of company related to average capital stock outstanding for year.

Each of the annual reports of the A. T & T. from 1922 to 1931 to its stockholders shows "Per cent of net earnings to average capital stock outstanding";

Each of Bell Telephone Securities manuals, years 1923 to 1930, shows "Ratio of net earnings to average capital stock outstanding";

CR-51A, line 46, the year 1929 and the year 1931, line 48, shows "Ratio of net earnings to average common stock outstanding";

6032 CR-53 of years 1923 to 1930 shows "Per cent of net earnings on common stock of A. T. & T.";

CR-67 shows the same as MR-22A.

CR-67A shows the same as MR-22B.

CR-76 shows "Balance net profits to average common stock" for each of the associated companies separately.

CR-97 shows "Balance net profits to average common stock" for the entire Bell System.

I have examined MR-14, being a monthly report form entitled "Cash Report," being one of the reports of the Illinois Bell.

I found that the form shows the loans made by the A. T. & T. to the licensee companies, the amount of loans repaid by the licensee companies and the net amount of financing by A. T. & T. to the licensee companies during the month covered by the reports. It would be possible through the use of this form and the annual reports to the Interstate Commerce
6033 Commission to compute the monthly average loans to each of the licensee companies based on the balance, at the beginning and end of each month, and annual average could be computed on the basis of the monthly averages.

"Mr. Goldstein: MR-14, I might state, was made available to us, but we have never had a copy. We would like to have a copy of one of those forms, so that we may offer it, we would like to have it produced so we can offer it as our exhibit."

(Witness continues.)

Since Mr. Blackman's cross-examination, I have made computations to show what the effect would be in those exhibits, wherein I compared the Illinois Bell with the other licensee

companies, by using the actual interest and loan figures, as shown from the books of the Illinois Bell and also using the loan and interest figures for all licensees, as shown by Mr. Heiss in X-103 instead of using the quarterly averages of City Exhibit 142. This is for all of the companies taken as a whole.

(Objection by Plaintiff; objection overruled.)

6037 The figures from Exhibit X-133 for the Illinois Bell, using the actual loans and actual interest figures combined with the dividends and stock figures, would be, for the year 1923, for the Illinois Bell, 7.14 per cent instead of 7.15;

The year 1924, it would be 7.14 per cent instead of 7.13;

For the year 1925, no change;

For the year 1926, no change;

For the year 1927, using the actual interest and actual loans, the figure would be 7.51 instead of 7.47;

For the year 1928, the figure would be 7.54 instead of 7.56;

For the year 1929, the figure would be 7.51 instead of 7.42;

6038 For the year 1930, the figure would be 7.67 instead of 7.66, and if you take the average of all the figures for all the years 1923 to 1930, the new figure would be 7.41 as compared with 7.39, based on the old figures.

Now, taking all licensee companies; the year 1923, unchanged;

The year 1924, unchanged;

The year 1925, unchanged;

The year 1926, 7.11 becomes 7.13;

The year 1927, 7.19 becomes 7.20;

The year 1928, 7.31 becomes 7.32;

The year 1929, unchanged;

The year 1930, unchanged.

Taking the years 1923 to 1930, the average, based on the figures as shown in X-133, would be 7.04, and substituting the actual interest and actual loans would be 7.05.

Taking the percentages as shown in Exhibit X-284, on line 11, of the Illinois Bell, and substituting the actual loans

6039 and actual interest, the per cent for the year 1923 would be 8.72 instead of 8.73;

The year 1924, no change;

The year 1925, 8.55 becomes 8.56;

The year 1926, the figure 8.37 becomes 8.36;
The year 1927, the figure 8.62 becomes 8.69;
For the year 1928, the figure 8.96 becomes 8.94;
The year 1929, the figure 9.32 becomes 9.46;
For the year 1930, the figure 8.22 becomes 8.23;
And taking the average of the period, the old figures would be 8.70, and the new would be 8.73, and for all licensee companies, line 11, the per cents would be unchanged for the years 1923, 1924 and 1925.

For the year 1926, 7.76 becomes 7.78;
The year 1927, 7.83 becomes 7.84;
For the year 1928, it is unchanged;
1929, unchanged;
The year 1930 is unchanged.
The average for the period of the old figures would be 7.52 and the new would be 7.53, and for all the licensees, ex-
6040 clusive of the Illinois Bell, line 11, year 1923, the figure 6.77 becomes 6.78;
The year 1924, unchanged;
1925, unchanged;
The year 1926, 7.71 becomes 7.73;
The year 1927, unchanged;
The year 1928, 8.07 becomes 8.08;
The year 1929, 7.95 becomes 7.94;
The year 1930, unchanged.
The average for the period on the basis of the figures as shown in X-284 is 7.43, and the new figure is also 7.43.

6041 I made a computation from X-284 to show in dollars what the difference would be between the actual figures and the quarterly averages, comparing the Illinois Bell with the other licensees, both using the old figures, and then substituting the new figures. I took the total investment shown in line 10 of the Illinois Bell, and I applied to that the per cent shown in line 11 of the return on investment of the other licensee companies. That would be the return on the investment of the A. T. & T. in the Illinois Bell on the basis of the average return of the other licensee companies, and I got a certain amount, and I compared that with the return shown in line 5, showing the difference in dollars of these per cents as shown on line 11 for the Illinois Bell as compared with the per cents shown on line 11 of the other licensees, and I have

made that computation on the basis of the figures as shown, and then I made the computation on the basis of the new figures.

6042 My computation was made by comparing the Illinois Bell with all the rest of the companies.

In the year 1923, based on the old figures, it would 6043 be $1,448,494, and based on the new, $1,439,690, a difference of $8,804;

In the year 1924, the old figure was $1,978,756, while the new figure was $1,978,756, the same, no change;

The year 1925, the old figure, $1,407,105, and the new figure, $1,412,599, a difference of $5,494;

For the year 1926, the old figure would be $672,482, as compared with $649,795, the new figure, a difference of $22,687;

The year 1927, the old figure would be $1,020,767, as compared with the new figure of $1,075,174, a difference of $54,407;

The year 1928, the old figure would be $1,181,910, as compared with $1,149,405, the new figure, a difference of $32,505;

The year 1929, the old figure would be $2,125,024, as compared with the new of $2,279,812, a difference of $154,788;

The year 1930, the old figure would be $2,010,956, as compared with the new figure of $2,017,551, a difference of $6,595.

If you take the totals for the period, the old figure 6044 would be $11,845,494, and the new figure would be $12,002,782, a difference of $157,288. That would help the defendants to that extent.

Exhibit X-285, page 8, is headed: "Dividends and Interest on Stock and Loans paid by Illinois Bell Telephone Company to A. T. & T. in excess of the Average Interest and Dividends on Stock and Loans of other Licensee Companies."

Carrying through all of these changes that I have mentioned before, the figures on line 6 would be changed to this extent:

6045 The figure $472,314 becomes $460,719;

The year 1924 is unchanged;

The year 1925, the figure $353,473 becomes $352,367;

The year 1926, the figure $111,747 becomes $94,226;

The year 1927, the figure $287,614 becomes $306,452;

The year 1928, the figure $321,055 becomes $287,290;

In the year 1929, the figure $291,650 becomes $390,938;

And in the year 1930, the figure $864,576 becomes $873,299;

Or, taking the total for the period, the figures as shown of $3,039,390 become, under the new figures, $3,102,250, or a difference of $62,860.

Except for Exhibits X-137, X-142 and X-143, all of my license contract discrimination exhibits do not take into account the equalizing factor on return. My exhibits do not take into account any adjustments due to anything that might be revealed in the minutes of the Executive Committee.

6047 (Defendants' Exhibits X-328 to X-340, inclusive, identified by Mr. Rainwater on direct examination, offered in evidence, subject to cross-examination.)

6048 *Cross-Examination by Mr. Blackman.*

The first exhibit that I dealt with today is X-328. I prepared it. I was asked to make a comparison of the showing of the Chicago division with the other licensee companies, and I prepared this statement showing what the return would be on the Chicago division. There is no comparison here. I have worked out here what the return is on the average fixed capital and materials and supplies less the accrued depreciation, just as the exhibit shows.

"Q. Well now is it your idea that this exhibit sets up anything showing any result on the basis of the value of the property used?

A. "It is on the basis of original cost. It is on the

6049 basis of cost as shown on the books of the company."

This is the exhibit where I depreciated the original cost. I have taken here the fixed capital and materials and supplies. We left out the cash working capital. One rea-

6050 son I left out cash working capital was because in my showing here, I wanted to compare with the showing of the other licensee companies, and the showing for all of them would require some study as to what the requirements for cash working capital were, and I made the comparison strictly on the basis of fixed capital and materials and supplies, and in my revenue figures I left out such items as interest on bank balances that might come about through cash working capital. I have shown here what the return is on the fixed capital and materials and supplies. There is no

6051 comparison on this sheet. The comparison that I spoke of is on X-330. It is not entirely correct to say that

what I really mean by this exhibit (X-328) is, that I am not presenting it as showing anything specific with regard to the return that the Illinois Bell is making, either on its value of the property or the cost of its property, but am setting up some figures here which I later use as a basis of comparison, of the same figures with other companies.

6052 I have tried to work out here what the return was on the fixed capital and materials and supplies. The purpose of it was to offer the basis of the comparison with the other licensee companies. As I understand the purpose of it, it is for the purpose of comparing certain operations of this company with operations of other companies. I
6053 did not have any purpose of my own. I was asked to prepare it on the basis of fixed capital and materials and supplies.

Page 1 of Exhibit X-328 includes interstate business. In determining my basis of comparison, I have deducted the reserve from the cost of the property as shown on the books.

At the bottom of the sheet it says: "This showing of return on investment is prepared on the same basis as the statement for all licensee companies, using the figures shown in Plaintiff's Exhibit A-49, except as indicated by notes (a) and (b) above." Plaintiff's Exhibit A-49 did not give
6054 me any of the figures on this sheet except the revenue and expense figures. That note should have read A-49 and A-53 instead of just A-49. I did not intend that note to be misleading. I refer there to these exceptions. Take taxes, for instance, I used the accruals instead of the payments. In other words, the company's Exhibit A-49 showed payments and I used accruals, and company's average fixed capital was taken from A-53. All I did was to just prepare the average fixed capital for the year based on the balances at the beginning and at the end of the year and the materials and supplies are taken from A-53. In these exhibits of the company's that I referred to, they did not proceed on any such basis as I have used here.

6055 In the note on X-328, I say, "using the figures." I do not say it was the basis. Where I say, "This showing of return on investment is prepared on the same basis as the statements for all licensee companies, using the figures shown on Plaintiff's Exhibit A-49," the basis is not the

same as the plaintiff's.

Referring to Exhibit X-329, in the year 1923 and subsequent years, I purport to make an adjustment which I call "Loss in recorded return, Illinois Bell Telephone Company, due to attacked rates." In the year 1923 I show that loss as
- $389,000, and in 1924 I show it as $1,566,000. The reason
6056 for that great difference is that the figure for the year 1923 was taken from Plaintiff's Exhibit A-52 to give effect to the date of the order, that is the effective date of the Illinois Commerce Commission order, October 1, 1923.

6058 The difference was due to the fact that the amount shown for the year 1923 is the loss, giving effect to the date of the Illinois Commerce Commission's order of October 1, 1923; while the figures in the year 1924 is for an entire year. So that the deduction that I make for the year 1923, is the loss that took place in one quarter. All of the other figures in that column for 1923 are on an annual basis, but I wanted to deduct here what the actual loss was for that period. I am purporting to show on this sheet what the result to this company would be under the Commission's rates, but giving effect to the date in the year 1923 that the order became effective.

As an accountant, I do not commonly make deductions of quarterly deficits from figures for the whole year, in
6059 order to get any intelligible result. But I was trying to show here what the actual experience of the year 1923 would be, with this adjustment only for that period in which the order was effective.

Item 11 down below was worked out on the same basis, of just the quarterly adjustment, due to the effective date of the order. What I was purporting to do here was to show the effect of the Commission's order upon the earnings of this company, based on that part of the year in which the order was effective. That is clear, what I have done.

6060 I made it up because I was advised by counsel to show the effect, based on the effective date of the order, and that is what I tried to do. He instructed me to consider the effective date of the order, and I prepared the adjustments on that basis. My contribution is the mathematics only. All of the figures are on an annual basis except Items

7 and 11 for the year 1923. The figures in Line 9 are taken from X-147.

6061 In X-147 I do not make comparison of a mixture of dividends and interest of other associate companies, with a mixture of dividends and interest paid by the Illinois Bell Telephone Company to the American Telephone & Telegraph Company, without discrimination between the amount that was interest and the amount that was dividends.

In Exhibit X-147, line 1, I say, "Return under present revenues from Illinois Bell Telephone Company, entire company, in excess of average return from other licensee companies."

The figure that I show there, which I call an excess is not the excess of the dividends and interest paid by the Illinois Bell Telephone Company to the American Telephone &

6062 Telegraph Company, as compared with dividends and interest paid by other associate companies. There are no dividends in the figure at all. The figure is worked out from X-146. The figure is carried in from X-146 into X-147.

The purpose of X-329 to me was to make a comparison between the operating results of the Illinois Bell Telephone Company and those of other licensee companies. I do not know what purpose counsel might have had in it, but that was what I did. That was my purpose.

6063 I cannot use a mass of figures without having some objective. In order to make that comparison and make it fairly, I made an adjustment in the depreciation account of the Illinois Bell Telephone Company. That adjustment amounts to as much as $4,429,000 for 1930. The net adjustment for the purpose of this statement is $3,000,000 for 1930. There is a corresponding amount of $1,500,000 I have to take off. That I have made up in the manner that was testified to by Mr. Tholin, giving effect to his interpretation of what the Commission determined in this case.

6064 I did not make any corresponding adjustment for the other companies. I had no knowledge of any adjustments to be made in the accounts of the other companies. I made this adjustment that I knew about, as far as the Illinois Bell Telephone Company was concerned, and it was made just as shown. As to whether as an accountant I would take the accounts of these companies that are set up on the

same general basis, and make an adjustment of over $3,000,000 in the accounts of one of them, without making any corresponding adjustment in those with which I make the comparison, I say that I have no knowledge as to what the proper figures for depreciation are for the other companies. I made the adjustment here on what the Illinois Commerce Commission had done with regard to depreciation of this company.

6065 I did not know that the minute I had made that $3,000,000 adjustment, I absolutely destroyed the basis of comparison.

I took this large amount out for depreciation in one case, and did not even assume that there was some comparable amount to be taken out in the other, because all of

6066 this was prepared according to the request of counsel as to this particular adjustment. I was requested to take this adjustment into consideration, and I did so. It is a fact that in all of these exhibits that have been put in today, I have made them up especially, as directed by counsel. I do not know what they mean. I do not know what the

6067 court should make out of them, after the court has read them.

(Counsel for plaintiff objects to this witness' exhibits, numbered X-328 to X-340. Objection overruled.)

6072 Exhibit X-329 is also a comparison based on what I call cost, and not value. It also is based on figures built up through the deduction of the reserve. Those facts apply to each of the four sheets submitted, designated as X-329. Exhibit X-330 is built up on the same general principle as X-329.

6073 The deduction of reserve, the deduction from the Illinois Bell of this amount which I say is an adjustment of depreciation,—all of these specific things that have been touched upon, apply to X-330 as well as X-329. Exhibit X-331 differs from the previous exhibits in that there are additional adjustments in there, due to the interstate separations, which were taken from the defendants' exhibits. I think that is shown here as Item 9. Item 9 is new. Item 10 is also new. There would be a new balance figure inserted there. With that exception, just two additional lines, all the other lines are the same as in Exhibit X-330. X-332 is the same, except

that it is limited to the intrastate exchange.

6074 Line 2 in Exhibit X-333 is the difference between the adjustment shown in X-147 and the adjustment in X-151, the license payments.

In Exhibit X-147, Item 4, Total Chicago Division, shows $407,960; and on Exhibit X-151 it shows $444,469. The difference between those figures is $36,509, and that is what is carried into this statement.

Exhibit X-334 is the same as X-330, X-331 and X-332, except that it covers the year 1931 solely, and sets up in parallel columns the result for the Chicago division, Chicago division interstate, and Chicago division intrastate.

In Exhibit 335, there is a typographical error. On page 2, in the first column, under amortization charges, the last
6075 figure on the page, at the bottom of the page is $94,492,231. That should be $9,449,231. It is not carried into my other computations:

Following the method which I have used in producing Exhibit X-336, the rate of return, applied as shown in Para-
6076 graph 2, would be reduced further and further as the value of the property increased, if there were no increase in capital stock or funded debt, or any other outside obligation in connection with that property. That is, the fundamental principle on which I have proceeded here is that the greater the value of the property in connection with the other figures which I have used, the smaller will be the rate of return.

In Exhibit X-337 I make certain comparisons and I showed that a 4.91 per cent return to the Illinois Bell Telephone Company results in an 8.31 per cent return to the share-
6077 holders of that Company. That is due to the fact that the securities issued by the Illinois Bell Telephone Company against its property, were less than the cost of the property.

The 4.91 return to the Illinois Bell Telephone Company would have resulted, or might well have resulted, in less than the 4.91 per cent to the stockholders, if the securities
6078 were more than the cost of the property. If you increase the stock, why, you are going to get smaller earnings per share to the stockholders. I do not know any statement here as to what it is entitled to earn. I have not made any

statement here as to what it is entitled to earn. I merely worked out what it would be if you provide interest and an 8 per cent dividend. That is all I have done. According to this method, if the stock is watered more and more, I would think it would make a poorer showing; it would make a poorer showing per share. That is, it would appear to the court that the company was needing more income, a higher percentage.

6079 On Exhibit X-339 I go a step further with the reserve, and I not only deduct the reserve but I deduct a figure which is raised to the reproduction cost level.

6080 I testified near the end of my redirect examination by Mr. Goldstein concerning certain documents, CR and MR reports. I stated MR-1 shows on line 46 "Balance net profit to average common stock," and I made similar references to the form of the various reports as showing the profit to the average common stock, net profit to average common stock. I had no purpose in stating that those reports showed that comparison.

6082 As to my purpose, I was asked to make an examination of these reports, and indicate what the reports showed, and I went through the reports and referred to this particular line on the report where it showed net profits to average common stock.

(Objection by defendants to question as to purpose of witness.)

I presume that that is something that practically every corporation shows. The basis of stating that comparison and the comparison that I made on Exhibits X-108, X-111

6083 and X-115, which we went over here for two days is the same, as I understand it; that is, showing the return on the common stock. It is my understanding as an accountant that in making its annual reports in the customary form that companies use, showing the relationship between its earnings and its common stock, this company was doing something similar to what I did when I increased the rate of return from 34 per cent to 59 per cent to the stockholders of

6084 the American Telephone & Telegraph Company on Exhibit X-111, except that in my Exhibit Number 111, I took only a portion of the stock, that portion that would be represented by the telephone instruments, while in the re-

ports of course, the entire common stock is considered.
6085 I think the showing is similar. As an accountant I think my procedure was similar to that followed by the company. I was only taking it on a part of the stock, and the company takes it on all of the stock. That is the only difference I know of.

6086 I did not refer to any line in my testimony in connection with the annual reports of the American Telephone & Telegraph Company. I stated that each of the annual reports of the American Telephone & Telegraph Company to its stockholders, from 1922 to 1931, shows per cent of net earnings to average capital stock outstanding. On page 19 of the Annual Report for 1930, it shows net earnings per share available for dividend. In that column it shows the figure for the year 1930 as $10.44. That is, it says on that report that the net earnings per share are $10.44. That
6087 is a common expression. I cannot say that I could find it in the annual report of practically every company. I also referred to CR reports. I will read into the record the comparison that I referred to.

CR-51-A shows on line 46 for the year 1929, "Balance
6088 net profit after preferred dividends to average common stock, 10 21."

6089 The effect on that comparison that I read into the record, if the surplus of the American Telephone & Telegraph Company had been $1,000,000,000 more than it actually was, and the stock premiums $500,000,000 more than they actually were, I think would be that it would not affect the figure at all. In the way that I figure the amounts shown on Exhibit X-111, the bigger the surplus and the bigger the stock premiums, the more you would find that the stockholder was earning on his investment. That is according to the method I used, the bigger the surplus and the bigger the stock premiums, the greater the return that I would
6090 show that the stockholder was earning on that particular item of investment, as I have shown it in X-111 and X-113, which is only a part of the entire investment. The method followed by the company, which I have called attention to, in these CR's and in the annual reports, may be different from the method I follow, but the expression is the same, as I understand it. Of course, they did not go at it

in that way, they did not apply any formula to get the answer. I realize that.

I understand that for two days we went over the question of whether the formula that I did use was an incorrect formula, and gave an upside-down answer. I remember that I finally stated that it was a fact that the more the stock
6091 premiums, and the more the surplus, the higher the return that I would work out on the investment from the same actual income on a particular item of investment, as I have used it here. As to whether there is no similarity whatever between what I have referred to here today in answer to Mr. Goldstein, and what I did in Exhibit Number X-113, the method is different, but I think the expression of return on stock is the same, except in one case I am working it out on the stock that was applied to a small item of investment, of the total; and here it is the entire stock of the company.

It seems to me that the difference in method and the difference in result is due to the fact that I took a part of the stock and not all of the stock. As to whether I would have gotten the same general result, that is, made it appear that the man who paid into the company $180 per share for his stock was getting a bigger return from the same amount of dividends of the company than a man who paid $100, I do not see that the comparison is exactly the same.

6094 I do not think there would be any difference between the man who paid the $100 and the man who paid $180 in the way I have used the figures, because my calculation was worked out on the par value of the stock rather than on the surplus, and premiums, in addition to par value. I remember I performed a little computation for you, I remember that I increased the surplus of the company by $1,000,000,000 and that I increased the stock premiums by $500,000,000. I remember that as a result of that I got 140.77 per cent instead of the 59 per cent that I showed on Exhibit X-113.

(Witness excused.)

6097 W. M. HAMMOND, a witness on behalf of defendants and having been previously duly sworn, resumed the stand for further re-cross examination by Mr. Blackman and testified as follows:

Re-cross Examination by Mr. Blackman.

(June 29, 1932.)

I prepared Defendants' Exhibit X-343. That was the paper that I prepared at your request when I was on the stand before. On this sheet, I compare triple A bonds of the Bell System with triple A bonds of the railroads and other utilities. The results that I get by this method compare with the results on my summary sheets, Exhibits X-227 and X-228 and X-229 as follows:

Exhibit X-227 and X-228 reflect the same figures as appear in Exhibit X-229, the tabular statement, so that I take it that a comparison of the one will cover the entire subject,

6098 I will compare the triple A issues with the corresponding periods, and the corresponding classes of business in Exhibit X-229, which embraces all of them together, all classes of bonds.

In the year 1923, on Exhibit X-229, the Bell System, costs to company figures was 5.72. On Exhibit X-343, the yield on triple A is shown as 5.33. The same year the railroad issues on Exhibit X-229 show 5.50 and on Exhibit X-343 they show 5.24. The public utilities, the same year, 1923, on Exhibit X-229, show 6.03 and on Exhibit X-343, they appear as 5.77.

For the year 1924, on Exhibit X-229, the Bell System figures are 5.70, and on Exhibit X-343 there are none, there being no Bell issues of triple A bonds in that year.

In 1925, on Exhibit X-229, the Bell System figures are 5.44 and on X-343 they are 5.19. In the same year the railroads are 5.61 on X-229 and 5.17 on X-343, and in the same 6099 year, 1925, the public utility issues are shown as 5.62 on Exhibit X-229 and 5.24 on Exhibit X-343.

In 1926, on Exhibit X-229, the Bell System percentage is 5.02 and on Exhibit X-343 it is 5.02. The railroads for 1926 in Exhibit X-229 show 5.26, whereas in Exhibit X-343

they are 4.75. The public utilities in 1926, the percentage on Exhibit X-229 is 5.52, while it is 5.08 on Exhibit X-343.

There are no Bell issues in 1927 or 1928 of triple A class.

Exhibit X-229 shows a percentage of 5.33 for the Bell System, in 1929, and in Exhibit X-343 the figure is 5.33, the same. The railroads in 1929 on X-229 show a percentage of 5.27 and on X-343, 4.82. Public utilities in 1929 on Exhibit X-229, 5.29, while on Exhibit X-343 they show 4.93.

In 1930, on Exhibit X-229, the Bell System percentage is 5.21, and in Exhibit X-343 it is the same. In the same year for railroads in Exhibit X-229 the percentage is 4.90, while in Exhibit X-343 it is 4.80. The public utilities in the same year, 1930, are shown as 5.04 in Exhibit X-229 and as 4.88 in Exhibit X-343.

I have summed up these figures at the bottom and give both the arithmetical average and the weighted average
6100 in Exhibit X-343. In each case, the yield on the securities of the Bell System is somewhat higher than the yield on either the railroads or the public utilities.

My other table shows the yield to the public based on the offering price. I get the same result there, that is, the yield on Bell securities is higher, showing that the bonds sold at a lower price compared to the yield than either the railroads or the other public utilities. There is a small
6101 difference in that direction. The years 1921 and 1922 are used on the combined issues. I left them off of this one (X-343). There was no purpose in making a distinction other than this: I started with the idea of covering the period from 1923 to date, and then decided that I had time to carry it back a little further with reference to the whole, but did not have ample facilities to extend it further in the time available.

Not having gone into the figures, I do not know whether if I made out a table that was comparable to those sheets, I would have shown a greater difference between the Bell securities and the other securities than I show on X-343. I made no classification according to Moody's ratings prior to 1923. In figuring up the table asked for I did not test out what the effect would result from the inclusion of 1921 and
6102 1922. I would not be able to do that without making a complete classification.

6102 *Re-redirect Examination by Mr. Goldstein.*

In the two years, 1929 to 1930, in which the Bell System securities cost to the company was higher than that of the public utilities, the percentage of total money received by the Bell System in those years was 100 per cent triple A money. The percentage of triple A money received by the public utilities, 1929, was only 5 per cent of the total, and in 1930, 13.3 per cent of the total. The ratio of triple A money, double A money and A money and BAA money, that constitutes the total funds, will have a very important effect upon the cost of funds to the company.

6103 *Re-re-cross Examination by Mr. Blackman.*

The experience by which I know that, is a study of statistical matters coming under my experience, public utility financing. I took my last answer on redirect to refer to the aggregate financing of a company by bonds. The cost of money is higher on the lower grade bonds.

6104 A company seeking to raise a given amount of money, or rather to do its financing by bonds, regardless of the amount, if it covers its entire requirements by about 25 per cent in bonds, the bonds being in that proportion with the usual relationship of earnings and equity, gives the bonds a very high character and consequently a low cost. A company with a much larger proportion of bonds of a miscellaneous character will usually pay a much higher average rate because of the fact that it is not only a lower grade, but a larger volume, and that is what is reflected in this statement, is a large volume, as well as the low grade.

Within reasonable limits, as the volume increases, the price that the company is able to sell the bonds at, goes down,

6105 even though the bonds may be perfectly good; that is, if you go beyond the customary limits, of probably 50 per cent bonds, or approximately that. I would not say it would make a great deal of difference in low ranges of about 25 per cent of bonds to the total, but you do reach a point which cannot be measured in a certain percentage with respect to all companies.

If a company is issuing triple A bonds that represent only 20 per cent of the value of its property and the company issues at the same time or later, lower grade bonds, it may not have a direct relationship in a given case on the selling price of those bonds although the fact that a company has junior bonds outstanding, places it in a less stable position than if it has only stock under its high-grade bonds. There is the danger of foreclosure and default which does not obtain if there are no junior bonds or lower grade bonds. I think it would have some effect to pull down the sale
6106 price of the triple A bonds. I see no basis for putting it up.

I could not answer intelligently whether if one company in an industry issued a lot of low-grade bonds that would have any effect upon the selling price at which another company in the same industry might issue triple A bonds. You are comparing different companies now which might occupy absolutely different positions. They are not comparable, that is, unless I knew the elements that would otherwise make them comparable.

6107 I think without question a given company can obtain its money lower, if it is in a position to issue only triple A bonds, than if it has to issue a lot of miscellaneous lower grade bonds. I do not think there is any question about that.

As to whether the price at which it can sell its triple A bonds is affected by the issue of lower grade bonds, I can only say again, I believe that a company issuing only triple A bonds can obtain a better yield on the money that it might be necessary to raise than if it must issue a lot of lower grade bonds to raise the funds. I think the fact that a company is issuing high-grade bonds and low-grade bonds, we will say triple A bonds and BA bonds, has an effect
6108 upon the price at which it can market its triple A bonds. The triple A bonds would probably not enjoy as much favor among investors as if it had only triple A bonds.

Whether the comparison that I am making here, even on the basis of triple A bonds, is a little unfair to the Bell System, because their bonds were all of a high grade, I can answer only by saying that the bonds are all of a high grade.

If the railroads had issued only triple A bonds, and if

the other industries had issued only triple A bonds, I would expect to find the yields on those bonds lower and the prices higher. If they had only triple A bonds, I think there would have been a tendency in that direction. If the railroads, for instance, had issued only triple A bonds, I would
6109 expect to find their total money, obtained by bonds, lower.

(June 29, 1932.)

It was stipulated as follows:

That the method used by Mr. Rainwater of converting the per cent return to the A. T. & T. Company, to percentage of return to stockholders of the A. T. & T. Company,
6110 upon their investment in the stock of that company, is used in each of the following exhibits: X-111, 112, 113, 114, 115, 118, 127, 134, 272, 273, 274, 276, 278, 282, 280, 294 and 337.

The average loans of the American Telephone & Telegraph Company to the Illinois Bell Company and other licensee companies based on the figures developed by Mr. Rainwater, and which he has already testified about, appear also in one form or another in the following exhibits: X-131, 132, 133, 134, 135, 136, 137, 142, 143, 144, 145, 146, 147, 273, 274, 279, 281, 282, 284 and in 285, except that they do not appear in pages 1, 2, 3, 4, 9, 10, 11, 12, 17, 18, 19, 20, 21 and 22 of that exhibit; also X-296, 297, 298 and 340, except for page 4.
6111 The method of Mr. Rainwater in making comparisons of the combination of interest and dividends which was referred to in the cross-examination occurs in each of the following exhibits: X-132, 133, 134, 135, 137, 142, 143, 273, 274, 281, 282, 284, 285, except for pages 1, 2, 3, 4, 9, 10, 11, 12, 17, 18, 19, 20, 21, 22.

6112 "Mr. Blackman: At certain places in the record the witness testified that the figures had been furnished to him by the company. Later he said that no figures had been furnished to him by the company. Of course, we contend that we never furnished the figures for the purposes for which they have been used, and if they wish to prove what they did say we furnished and the circumstances, of course, it is open to them to do it, but I shall move to strike out from

this witness' testimony the various places at which he said that he had taken these figures from the company and that the company had furnished them to him, in view of his statement later that he got nothing from the company.

6115 The motion is to strike out his statements that the company furnished him these figures, on the ground that on cross-examination he testified that the company did furnish him no figures.

6116 I am not accusing the witness at that point of having made a statement that was not true or contradictory. He merely made a general statement that he got it from the company and on cross-examination I said, "Did you personally get any of these figures?" and he said "No." They all came through counsel.

6118 The Court: Strike out the testimony—the statement that he received the exhibits—he received the figures from the company and in place of it substitute that he took the figures from City Exhibit 142-A or whatever the exhibit is that was furnished by the company—was furnished to counsel at counsel's request for the information made up in that way."

(Plaintiff offered in evidence the exhibits identified during the cross-examination of Mr. Whitworth, Mr. McCann, Mr. Wray and Miss Galster.)

(July 1, 1932.)

6506 "Mr. Bracelen: Counsel states that that completes his cross-examination of plaintiff's witnesses on rebuttal. One of my associates suggests that I should broaden the offer I made a moment ago to cover all exhibits that have been identified by the plaintiff's witnesses on rebuttal, so that the record will leave that point in no doubt.

Judge Wilkerson: They are admitted, subject to the objections. Have you any more objections, Mr. Goldstein, on the exhibits, which are offered in evidence in rebuttal?

6507 Have you stated all of the objections you wish to make?

Mr. Goldstein: We have not stated them all yet.

Mr. Adcock: We have not had time to formulate them.

Mr. Goldstein: And the plaintiff has still to formulate its.

It is just a question of formulating the specific objections.

Judge Wilkerson: Well, they are admitted in evidence.

Mr. Adcock: Subject to such objections as we make as to materiality.

Judge Wilkerson: Well, I don't know. I supposed we were going to close the record in this case today.

Mr. Goldstein: Well, plaintiff has some that are open.

Mr. Bracelen: Yes, it is our understanding it is to be closed today."

(Which said documents marked Plaintiff's Exhibits A-1 to A-269, respectively, were received in evidence:)

6508 "Mr. Bracelen: I suppose, perhaps, I may make this suggestion to your Honor, that we might do well to proceed with any further oral testimony, if there is any further testimony.

Mr. Goldstein: No.

Mr. Bracelen: And then arrange for the offer of additional exhibits by defendants, and the statement of our objections to it.

Mr. Goldstein: We have no more oral testimony.

Judge Wilkerson: I understand the oral testimony is closed.

Mr. Goldstein: We have no more oral evidence.

Mr. Adcock: We have no more.

Mr. Goldstein: I want to offer the X exhibits, if the record appears we have made no formal offer, we offer all of the X exhibits, so there will be no question about it.

Judge Wilkerson: They are admitted."

(Which said documents marked Defendants' Exhibits X-1 to X-439, were received in evidence:)

6509 "Mr. Blackman: With regard to our objections, your Honor, I understand you would like them written out in such form that they would be opposite the exhibits.

Judge Wilkerson: I thought that would be convenient. I had supposed, however, that as these exhibits had been offered here from time to time, objections had been stated to them, and I found scattered along at different places in the record; my only thought about it was that in the abstract of the record, that objection should be brought down and printed in the back of the exhibits in such a way that this court would not be obliged to look through the record to find out what the objections to the exhibit were.

Mr. Goldstein: That is right.

Mr. Blackman: Yes.

Judge Wilkerson: But I had supposed the points relied upon had been stated in reference to the exhibit, at least, substantially.,

Mr. Goldstein: Except for the last few days.

Judge Wilkerson: And it is my recollection that counsel has made a great number of additions to these exhibits, and it is a matter of abstracting the record, and having the objection to the exhibit appear in the appropriate place in the book of exhibits, rather than in the back of the abstract
6510 of testimony. That was the extent of my suggestion about it, that is what I intended at any rate.

Mr. Blackman: There are about 150 exhibits of Mr. Rainwater and Mr. Hammond, and of course the making of the objections to each of those is quite lengthy. We would be very glad to do that, and we approve the court's suggestion. But, of course, if you do not make them too discursive, it will take a few days in order to boil those down, and I would suggest that we send them and file them with the Clerk.

Mr. Goldstein: And we will file our answer.

Mr. Blackman: They could be supplied for the record, and the abstract show those. There will be no difficulty about that.

Judge Wilkerson: You can arrange between yourselves on that. Any arrangement you make on that subject will be agreeable to the court. It is not necessary to file them. They will be shown in the abstract of the record at the appropriate place. Whenever an abstract comes in here attested to by both parties, the court will dispose of the case on the basis of that abstract.

Mr. Adcock: Well, then, we want to object to some of their exhibits in the same way.

6511 Judge Wilkerson: Well, any arrangement you make.

Mr. Adcock: There were some matters that we were to dispose of at the time we closed, in the nature of exhibits and New York testimony and so forth. We have here a list of exhibits.

Judge Wilkerson: Will you excuse me just a moment? When I come back, we will finish this.

Mr. Adcock: We have a list of exhibits here and a description of exhibits, and the number of the exhibit, which we have

furnished to counsel on the other side. We furnished it, I think, last Sunday, that we desire to offer. They relate to documents largely, which have been furnished by plaintiff to defendants, in the course of the investigation.

Judge Wilkerson: Are they entirely exhibits of that class?

Mr. Adcock: Yes, except the New York depositions we desire to offer separately. There was an order of the Illinois Public Utilities Commission along about 1919, too. Now, we have a list of these exhibits which we think we can furnish the reporter, and we offer the exhibits that are described in this list, with the numbers indicated opposite.

Mr. Goldstein: And the descriptions.

6512 Mr. Adcock: Well, I say, they are described in this list.

Mr. Bracelen: Is this the list (indicating)?

Mr. Adcock: In connection with the statements also indicated in the list which has been furnished.

I will ask these be received.

Mr. Goldstein: These exhibits run from X-346—

Mr. Adcock: To X-437, I think.

Mr. Goldstein: 435.

Mr. Thompson: They begin with what?

Mr. Adcock: 346.

Mr. Thompson: Your Honor, there are some of these that I think your Honor ought to know the nature of. I have here objections to some of them, but Exhibits 346, 347, 429, 430 and 431 are petitions filed with the predecessor of the present Illinois Commerce Commission, and orders made by it with respect to rates in effect prior to 1921. There are five of those exhibits. They can have no possible bearing on this case. Exhibit 401 is a reoffer of city Exhibits 157 to 157-J, which are certain contracts between the Central Union Telephone Company and the American Telephone and Telegraph Company relating to the acquisition of property, telephone

property in Illinois, outside of the city of Chicago, Indi-
6513 ana and Ohio, which were excluded by unanimous ruling of the three judges of the court in the former hearing.

Mr. Jones: They are official statements?

Mr. Thompson: Statements. Exhibit X-244 is memorandum of proposed agreements between American Telephone & Telegraph and Central Union Telephone company, dated February 15, 1894, and is the so-called 100 mile contract. Now,

there is only one that I want to call particular attention to, Mr. Adcock, if I may have Exhibit 426. I am not meaning by my statement to do more than call attention to the specific reasons underlying the objections which I will now hand to the reporter. But 426, there is a part of it, I think, that very clearly ought not to be admitted.

Judge Wilkerson: What is it?

Mr. Thompson: What is 426?

Judge Wilkerson: Yes.

Mr. Thompsoon: Exhibit 426 is getting into the record certain filings with the Public Service Commission of Illinois, certain rate schedules, bills and so forth of the Illinois Bell Telephone Company for the period 1923 to 1931.

Now, your Honor will remember there has a controversy existed between the parties. It is our claim that when
6514 the term "Exchange Service" is used in any filing, or rate schedule, it means, in the telephone business, to include all services rendered by means of exchange facilities. We have an exhibit which shows that pursuant to the request of the defendants, the plaintiff has produced copies of the following contracts, schedules, filings and documents of the Illinois Bell Telephone Company, which contracts, schedules, filings and documents were the only ones effective in the Chicago exchange area for exchange and toll service during the period 1923 to 1931, both inclusive, other than those already in the record in this case, and then is a list of the instruments which we have furnished to them. Then, of course, it becomes a question of interpretation for the court.

Now, then, they go on, on pages 4, 5 and 6 in this exhibit, to set out a long colloquy between court and counsel about the production of these documents. Mr. Haight was insisting that we produce documents which contained a specific definition that the exchange services—well, so that I will be perfectly clear about what he said, let me read it. He said:

"Then, I would like to have furnished any schedule or document," and so forth, "under which it is claimed
6515 that the Chicago exchange revenues were collected from January 1, 1923 to the present time, which revenues were apportioned to interstate toll, in which contracts and schedules it is provided that such revenues should cover any right of the subscriber to use the Chicago local exchange facilities to connect with the toll switchboards or toll trunks.

If there be any such, I would like to have them produced.

They want all of that colloquy in, and it is perfectly improper.

Mr. Goldstein: Judge Evans issued an order that we set out in here.

Mr. Thompson: No.

Judge Wilkerson: Isn't it all in the record?

Mr. Thompson: No.

Mr. Goldstein: No, they didn't abstract it.

Mr. Adcock: It is not in the abstract. It has been abstracted up to date.

Mr. Thompson: And the abstract approved up to date.

Mr. Goldstein: Judge Evans stated, "Well, you will either tomorrow morning, or tomorrow sometime, either produce those, or tell us you have not been able to find them." Now, they won't tell us they have not been able to find them,
6516 but Mr. Thompson stated he has produced all of the documents, and let the court judge for itself, and we are following out the direction of Judge Evans.

Mr. Thompson: What this exhibit shows without the part objected to is that we have furnished to them the contracts, schedules, filings, and documents of the Illinois Bell Telephone Company, which were effective in the Chicago exchange here for the time in controversy here, and what they want to do with this exhibit is to get a characterization of those exhibits in the record.

Mr. Goldstein: No, we want to show it was pursuant to the order of Judge Evans.

Judge Wilkerson: Now, let's see. Is this something that transpired on the day I wasn't here, or when was it?

Mr. Goldstein: Yes, that is why we quoted the whole thing, that is why we put the whole thing in.

Judge Wilkerson: I wasn't here at the time. Now, I would not presume to strike from the record anything that took place while Judge Evans was here, but what I would like to do now is, to leave the record here today in such a shape that that matter may be brought up at some time and disposed of by the court.

Mr. Thompson: Exactly.

6517 Mr. Adcock: Then that is the only objection to that exhibit?

Mr. Thompson: That is an objection to a portion of that exhibit. I am not saying it is the only objection We are going to file objections later.

Mr. Goldstein: Well, I mean formal objections?

Mr. Adcock: It is merely a formal objection to the exhibit.

Mr. Thompson. The reporter may copy into the record these objections that I mentioned awhile ago."

(Said objection being as follows:)

"The plaintiff objects to the introduction in evidence of Exhibits X-429, 430, 431 and 436 and 347, and each of them, which are petitions of the Illinois Bell Telephone Company filed with the Illinois Public Utilities Commission, and orders of that Commission made with respect to such petitions which deal with the rates in effect prior to 1921. These exhibits can have no possible bearing upon the determination of any issue in this cause and are wholly irrelevant.

"The plaintiff objects to the introduction in evidence of Exhibit X-401, which is a re-offer of City Exhibits 157 6518 to 157-J, which were excluded upon the former trial of this cause by decision of the three-judge statutory court. These exhibits deal with the financial relations between the American Telephone & Telegraph Company and the Central Union Telephone Company and with the financial arrangements concerning the sales of the properties of the Central Union Telephone Company to the Indiana Bell Telephone Company, the Chicago Telephone Company and the Ohio Bell Telephone Company. They do not relate to any property of the Illinois Bell Telephone Company in its Chicago area. They can have no possible bearing upon any issue involved in this cause.

The plaintiff objects to the introduction in evidence of Exhibit X-424, which is a memorandum of proposed agreement between the American Telephone & Telegraph Company and the Central Union Telephone Company, dated February 15, 1894, and is the so-called one hundred mile contract. This exhibit does not prove or tend to prove any issue in this cause.

The plaintiff objects to the introduction in evidence of

Exhibit D-92 which is a pamphlet entitled, 'The Tele-
6519 phone Company as a Citizen of your Community,' and which is an address by Mr. F. O. Hale, made on April 2, 1931. This exhibit is wholly irrelevant and immaterial to any issue in this cause.

The plaintiff objects to that portion of Exhibit X-426 which sets out a colloquy between court and counsel with respect to the production of certain schedules, documents and contracts of the Illinois Bell Telephone Company. This colloquy has no possible place in an exhibit. It is wholly irrelevant and immaterial and the exhibit itself shows that all contracts, schedules, filings and documents relating to exchange and toll service in the Chicago area are now in the record.

The plaintiff objects to the introduction in evidence to that part of Exhibit X-425 which sets forth the order and bulletins of the Post Office Department, telephone and telegraph service revised to May 1, 1919, on the ground that such order and bulletins are wholly irrelevant and do not tend to prove or disprove any issue in this cause."

"Mr. Bracelen: I hope, your Honor, this will not mean that when I get back to New York, I will have to be hauled
6520 back here again on a motion in about ten days or two weeks.

Mr. Adcock: No.

Mr. Goldstein: You may bring it up whenever you want.

Judge Wilkerson: This record will be closed here today, and any motions which are made with reference to the exhibits or the evidence should be made before the argument begins. When the case is set for argument, they may be brought up at the beginning of the argument.

The record, of course, will show today the offer of these exhibits, I think probably the ruling should be receiving them in evidence.

Let the plaintiff, as to that portion of the exhibit to which objection is made, make a motion to strike, and then let that motion be disposed of when the case is argued.

Mr. Bracelen: That is, as to these exhibits now that are identified as—

Judge Wilkerson: I was addressing myself particularly to the exhibit that Mr. Thompson said contained colloquy between Judge Evans and counsel for the defendants, and his point that that colloquy was no part of an exhibit. That would seem to be well taken, but as a matter of course,
6521 what transpired in court is not a part of the exhibit. It is a part of the records in the case, something that transpired here in court, and either side brings it in, I suppose it is a part of the record, but it is not an exhibit.

Mr. Goldstein: We are just trying to avoid reprinting the abstract. We have done with some other matters by agreement with them.

Now, if they would prefer to have it re-abstracted, and put into the abstract, instead of putting it in here and then abstracting it, it is just a matter of spending the money to have it done, reprinted, that is all.

Judge Wilkerson: Just what is your purpose? Did Judge Evans made a ruling?

Mr. Goldstein: Yes. It is stated.

Judge Wilkerson: Of course, I should hope that all comment and observation which I may have made during the progress of this trial will not be taken as indicating the slightest view which I have in reference to how this case should be decided, or how the evidence should be construed, or how any question of law should be ultimately decided. Judges sometimes speak freely during the course of argument of counsel. The only thing which goes really into
6522 the record which would have any significance at all for the reviewing court or for the court of three judges here is when they come to hear the case would be the ruling of the judge. If it is in evidence—if it is evidence offered, and he admits it erroneously, that is the point proper to be considered. Or if he rejected it erroneously, that is the point to be considered. But what he says about it has nothing to do with the case.

Mr. Goldstein: May I call your Honor's attention to the specific order to the witness by Judge Evans to deliver these documents?

Judge Wilkerson: If an order was made to the witness, and the witness has not complied with it, then that should be brought to the attention of the court, and a further order

of the court asked, for the production of the document. I don't see how you can profit by it.

Mr. Goldstein: No, we are showing how these documents were delivered pursuant to that order, that's all.

Mr. Thompson: The difference between us is this, your Honor: We delivered the documents.

Mr. Goldstein: Pursuant to that order.

Mr. Thompson: Just a minute. What Mr. Goldstein
6523 wants is some inference from this colloquy in this record that by delivering these documents, his position had been acceded to. That is what he wants; that is the only purpose.

Mr. Goldstein: It is understood there is no inference to be drawn—

Judge Wilkerson: Of course, the position counsel takes with reference to any question in this case could not be acceded to by one side. Where by agreement of the parties one judge hears the evidence, he of course speaks for the court so far as his rulings go only, but as to anything which he says in connection with his rulings, that cannot bind the court.

Mr. Bracelen: Of course, your Honor, there ought not to be any dispute between counsel as to whether material of that kind is proper in an exhibit. Obviously, it cannot be proper in an exhibit. The record is made.

Judge Wilkerson: I have said here repeatedly what I thought of the significance of certain exhibits. I would not expect that to have the slightest effect on the other judges when they hear this case, any more than Judge Evans, what he has said there about these exhibits, would represent the view of the entire court, except in so far as he may have made a ruling.

6524 Now, if he orders the witness to produce evidence and the witness produced it, it has lost its significance.

Mr. Thompson: Exactly.

Mr. Bracelen: Now, if the court please, may I make some objections—

Judge Wilkerson: I suppose, however, that this exhibit will be identified with the portion of the argument when Judge Evans was present. I cannot see that it would have any bearing on the case at all. I would hesitate very much to say that it is not to be received, as being something that

transpired here in court, when I was not present; but I cannot see it would serve any conceivable purpose in this case by being made a part of the exhibit.

Mr. Goldstein: It could be made a part of the abstract, if we reprint the abstract.

Judge Wilkerson: I hope you are not putting in this record everything the Judge said. I cannot conceive that anything which the Judge said in making these rulings, the way this case has been heard, has any significance. The ruling of the Judge is the ruling of the court, but any colloquy between court and counsel is merely the individual expression of the view of the judge who makes it.

6525 Mr. Goldstein: It is merely to show the circumstances under which the request was made, because they are complaining there are a lot of bills, and they have no pertinency or anything else, and here they are directed by an order in connection with a very material part of this case, and we are putting in the order.

Judge Wilkerson: Are they in? What difference does it make how they get in, if they are in? You cannot add to the significance of the document by showing how it was received. Stolen documents are sometimes received in evidence. I cannot see that their weight as evidence is affected in the slightest by the manner of their production.

Now, does it affect the weight to be given to them, or their meaning as evidence? They might have been stolen and gone in instead of being produced, as you say, in response to the ruling of the judge who is hearing the case. If they are here, what more do you want?

Mr. Goldstein: Except the question came up at that time whether they were to produce anything in the world or whether they were to produce a document that contained certain provisions, and pursuant to that order they were

6526 either to produce these documents or there were not any. Mr. Thompson said, "Now, I will produce everything I have got, and from that you can judge," and the refusal of Mr. Thompson to do the very thing the court wanted at that time led to the production of all of these documents, and we are trying to bring them together, so that there will not be an awful mass which is thrown in, and the records will appear as if we are just striking—

Mr. Adcock: If the abstract had shown this colloquy, there

would be no occasion for it in as an exhibit.

Mr. Goldstein: That is right.

Mr. Adcock: And it is solely because the abstract did not show the colloquy that this has been put in.

Mr. Goldstein: If we can amend the abstract, all right.

Mr. Thompson: I just want to say one word further, and then I am done. These things are produced, and they have their argument from them.

Now, if they have no purpose to argue that by the way in which they were produced, there is some admission on our part, that is one thing; but I apprehend from what has been said here that they are going to say that we pro-
6527 duced these documents upon the request of counsel, and in response to whatever Judge Evans said, and that there is some admission in it.

Mr. Goldstein: No, no.

Mr. Thompson: Or some implied statement on our part that we were able to produce no documents which sustained our position with respect to exchange service revenues; and we say every one of them sustained it, when it mentions it.

Judge Wilkerson: Have you any such purpose as that, Mr. Goldstein?

Mr. Goldstein: No, sir, we state that now for the record.

Judge Wilkerson: All right. With that statement, I don't think it makes much difference whether it goes in or not. It may be received in evidence.

Mr. Bracelen: Now, if the court please, counsel have offered Exhibits X-346 to X-435, both inclusive; these exhibits are listed upon typewritten sheets which they have given to us, which are numbered from 1 to 22, inclusive, on legal cap size paper, there being a great many duplicate numbers. So that I should say there are perhaps 35 pages taken to give a list of the exhibits.

For example, on page 1-A, one exhibit, X-354, takes
6528 the entire page. Page 1-B, Exhibit X-355, covers that entire page. And on those pages—and I cite them merely in illustration—are listed a large number of separate documents, and many of them are very bulky in character.

The point I want to get before your Honor is that this list of a small number of exhibits constitutes the most colossal dumping operation that has ever come within my experience.

Much of the material here, as the list shows, is material in the form of statements and documents, which we have been furnishing to counsel for the city during the past 12 to 15 months. I have not examined the list with sufficient care to be prepared to make a statement to the court at this time as to whether there may be some of these things that we would concede to be relevant, but I have examined it far enough to satisfy myself that this offer is an offer of a tremendous mass of papers and documents, that by no possibility, would this court receive in evidence if it knew what they were, and this inoffensive list, which is not so small in itself, would give your Honor no conception of what the volume of papers would be if they were here in court.

Judge Wilkerson: Is this offered as part of the de-
6529 fendants' case?

Mr. Goldstein: Yes.

Judge Wilkerson: Or is it offered in sur-rebuttal?

Mr. Goldstein: No, it is part of our case.

Mr. Adcock: It is a part that we reserved at the time.

Judge Wilkerson: By stipulation?

Mr. Adcock: Yes.

Judge Wilkerson: Is there a stipulation that covers it?

Mr. Adcock: Yes.

Mr. Goldstein: Yes, that we were to offer in this list of exhibits before the case was over.

Mr. Bracelen: No objection on that, that it is offered out of time at all, but that, with possibly some slight exceptions, the offer in itself makes up what would be an enormous record for an important lawsuit, in volume, and it is a mass of material that is irrelevant to any issue in the case.

Judge Wilkerson: Well, of course, I suppose somebody could come along and offer all the books of the American Telephone & Telegraph Company in this case, or all the books of the Western Electric Company, in evidence.

Now, between an offer of that kind and an offer of
6530 proper tabulations, with opportunity to verify them from the books—it makes little difference, as you say, whether you look at it on one side or the other. Manifestly, if somebody would come in and offer all the books of the Western Electric, the court would reject the offer to protect itself against an imposition of that kind.

On the other hand, if tabulations are brought in here with-

out proper reference to the books, and proper opportunity to examine the books and compare them with the tabulation, the court would reject that. Just what these things are, the court does not know.

Mr. Adcock: If your Honor please, we stated at the beginning—

Judge Wilkerson: Now, it would seem that the exhibits which have already been brought to the attention of the court and received in evidence far transcend all the limits of reasonableness in cases of this kind.

Mr. Bracelen: Precisely.

Judge Wilkerson: The thing has gone almost now, on the basis of the exhibits already produced, to the point where it becomes a grotesque farce, in a case of this kind.

6531 Mr. Bracelen: And this makes it a colossal farce.

Judge Wilkerson: It may be that the purpose of these documents is to demonstrate that what the Supreme Court really intended to say in its opinion, in which they went to such pains to lay down the rules of law that are applicable—I say, perhaps what the Supreme Court really meant to say was that it was utterly impossible for a plaintiff, situated as the plaintiff is in this case, to make out a confiscation case. If it had been the purpose of the Supreme Court to say any such thing, it would seem to me that the Supreme Court would not have spent the amount of time in the formulation of an opinion which was spent in this case. It would have been very easy to have said in a paragraph or two that it was impossible for the plaintiff in a case of this kind to make out a confiscation case. Now, if exhibits may be multiplied and multiplied, and multiplied, and documents simply poured into the record in a case of this kind, it is equivalent to saying that it is utterly impossible for the plaintiff to have relief in a case of this kind. It may be that is what the Supreme Court intended to say, I don't know. I don't think so.

Mr. Adcock: These documents are principally documents furnished by the other side.

6532 Judge Wilkerson: In the aggregate how many pages of these documents are there, if they are copied into the record?

Mr. Goldstein: We advised the other side, when we gave them the list, that it was understood from these exhibits

that as soon as we would close, we would go through and give them the list.

Judge Wilkerson: No one ever heard of making up a record in a lawsuit in that way. The court is entitled to some protection against a record made up in that helter-skelter way.

Mr. Goldstein: We were going to follow the same procedure that we followed in 1929, agreeing on an abstract of the formal portions. We did that in 1929.

Mr. Adcock: As I understand it, the court had received these in evidence subject to the objections which might be formulated by counsel for the other side.

Judge Wilkerson: Well, counsel for the plaintiff stated an objection here, which, after everything has been said, seems to indicate that perhaps the court—

Mr. Bracelen: Your Honor, Mr. Jones tells me that he has seen what he thinks is perhaps the complete pile of papers covered by this list of exhibits to which I have referred, and he thinks it would take 5,000 printed pages, these 6533 exhibits. You understand, your Honor, that those exhibits do not include this list, that they are about to offer now, as I understand it.

Mr. Jones: They have offered it.

Mr. Goldstein: You changed your case from Ohio to Chicago by just changing one or two words, and making us re-mark entire exhibits to get them together. They gave us one set of exhibits to work on, and when they get into the trial, they change the record on us.

Mr. Adcock: These are principally exhibits furnished by counsel for the other side to us.

Judge Wilkerson: Well, they are not actual exhibits, of course; they are pages.

Mr. Adcock: They are pages.

Judge Wilkerson: That doesn't make them exhibits.

Mr. Adcock: No, I understand; but they are papers furnished by them, they are made up in that way.

Judge Wilkerson: You may have called for information of a kind which is a basis for exhibits you have. If the exhibits had been received and properly checked, we would have a record. But, now, if you go through this, and you cull out a sentence here and a line here, and string it along

together, how can the court make head or tail out of it, unless it examines all the exhibits? In this kind of a case by
6534 picking out the proper portions and stringing them together in the proper way, you can almost make any kind of a showing.

Mr. Goldstein: The plaintiff was to do the same thing in 1929.

Judge Wilkerson: Almost anything within the realm of imagination.

Mr. Blackman: That is what we pointed out already in regard to a good many of these exhibits.

Mr. Goldstein: It was understood if we could agree on any portions of it, that we would then cut them down, or use every effort to do so.

Mr. Thompson: Do you mean to say we had made any agreement in this case?

Mr. Goldstein: No, I don't.

Mr. Thompson: No.

Mr. Goldstein: I told Mr. Jones we would try, and I said as we sent it to you, that if we couldn't agree, we could designate portions we wanted, and you could designate, and we would follow the same procedure as in 1929.

Judge Wilkerson: Now, this case was to be closed today.

Mr. Goldstein: We offered them all.

Judge Wilkerson: How are we going to leave this
6535 record wide open, so there is no end to the evidence?

Mr. Goldstein: We offered all of them.

Judge Wilkerson: We have been talking about this closing for weeks, and it was understood that the case was to be definitely closed. You leave a record open this way—

Mr. Goldstein: No, the record is closed.

Judge Wilkerson: —and you make it incumbent on the court to come back here and hear a lot of argument about the admissibility of testimony.

Mr. Adcock: If we are to select a portion of the exhibit that we think material, and they select portions they think material, so that it will make a proper story, why, the court cannot be misled in the matter. If we cannot agree on that, then, of course, the whole exhibit would have to go. In a case like this we have got to work out some plan of that kind where it involves so many different issues, and so many different exhibits have to go in in order to tell the story.

Now, it would be impossible to have a record which contained everything whether material or immaterial, that was in an exhibit. Now, I think the thing can work out very easily, and the record when finally made up will be intelligible, and will be within comparatively small compass.

6536 Judge Wilkerson: Of course, if the papers are received in evidence, the defendants' record has to be abstracted and has to be printed.

Mr. Adcock: That is what we are doing.

Judge Wilkerson: And I doubt if defendants are really doing anything except to perhaps assume the burden of a very large expense to themselves in printing the exhibits. I suppose if you cannot agree on the portions to go into the abstract—

Mr. Bracelen: Yes.

Judge Wilkerson: —and I think if you cannot agree very promptly about it, you will have to go ahead and print it all.

Mr. Bracelen: Yes, I think so.

Mr. Goldstein: We will have the exhibits ready.

Mr. Bracelen: I don't know when any of counsel for plaintiff are going to have time to devote to that sort of a job.

Judge Wilkerson: I don't think it is incumbent upon you to do it at all.

Mr. Bracelen: I don't either.

Judge Wilkerson: The documents are here, and they are offered and they are objected to on the ground they are irrelevant and immaterial, and the court has overruled the objection and admitted them in evidence, subject to a

6537 motion to strike out when the case is argued. If the defendants desire to do anything other than that, they will have to put them in their abstract and print it, and the court will not, with the vast quantity of evidence put in here at this time—and I think I speak for all of the other judges—I say, we will be very slow to allow the difficulty of printing it to be assigned as any reason for a continuance.

Mr. Bracelen: This procedure is without precedent so far as I know, and it is an imposition upon the court.

Mr. Goldstein: And the plaintiff's method of presenting this case, we feel, is the same sort of an imposition, and that is the reason we have to go to the extremes we have. We

have gone thousands of miles, and used up a lot of time and money that was not necessary.

Mr. Adcock: I know a very important case that was brought before the Chief Justice of the United States as a special master, where substantially the same thing had to be followed. It would be impossible to have printed every exhibit, they were large, there were some things, some small things in an exhibit, or in a paper, that had to go in,
6538 that were material. The rest would be immaterial, and the record was made up in that way. There is never any difficulty about it.

Judge Wilkerson: I think, however, if it is true there are over 5,000 pages, the offer should have been accompanied by some kind of a statement indicating the portion of an exhibit on which reliance is placed.

Mr. Adcock: We would have done that. The fact is, that we would have been working night and day. There are a great many of these documents that we did not have an opportunity to digest.

Mr. Goldstein: They were not furnished.

Mr. Adcock: We know there are certain portions, but we are trying to close the case.

Mr. Goldstein: Some of them were not delivered to us in time.

Mr. Adcock: And that proposition of indicating to counsel on the other side the things we want would be a very simple matter, and could be done just as well afterwards as now when we offer the exhibits.

Mr. Goldstein: We gave them the list, we gave them the opportunity to check each one of them, so there would be no question about the formal parts of them.

Mr. Blackman: On Sunday last, wasn't it?

6539 Mr. Bracelen: Yes, on Sunday last."

(Which said list of exhibits, so offered by the defendants, is in the words and figures following, to-wit:)

"X,346. Order of November 29, 1919 on petition
6540 Illinois Public Utilities Commission X-431.

X-347. Petition of May 21, 1920, in Case No. 9291.

X-348. Mr. Crunden's working papers used in connection with his Exhibit A-100.

X-349. Exhibits furnished by Mr. Heiss in connection with Heiss Ohio Exhibit No. 10, bearing legend "Classification of

Departmental Expense" for the years 1920-1930, and "Analysis of Departmental Expenses—year 1931."

X-350. Heiss Ohio Exhibits Nos. 20-27, furnished by plaintiff.

X-351. Heiss Ohio Exhibit No. 11, furnished by plaintiff.

X-352. Annual Reports of Ill. Bell, 1920-31, incl.

X-353. Annual Reports of Western Electric Company, Illinois corporation, 1909-1915, incl., and of New York Corporation, 1916-1931, incl.

X-354. Portions of Provisional Estimates of Illinois Bell and Letters of transmittal, 1920-1931, incl.

6541 X-354—Detail:

Illinois Bell Provisional Estimate.

1923 Complete, with letter of transmittal dated November 28, 1922, addressed to Mr. H. B. Thayer, President, American Telephone & Telegraph Company.

1924 Statement E.
Statement F.
Supplement to Statement F.

1925 Statement E—Sheet 1.
Supplement to E.
Statement F.
Supplement to F.

1926 Statement E-1.
Supplement to E.
Statement F.
Supplement to F.

1927 Statement E-1.
Supplement to E.
Statement F.
Supplement to F—Sheets 1 and 2.

1928 Statement E-1.
Supplement to E.
Statement F.
Supplement to F.

1929 Statement E-1—Illinois Bell.
Chicago Area.
6542 State Area.
Statement F.

1930 Statement E-1—Illinois Bell.
Chicago Area.
State Area.

Statement F.
Supplement to F.
1931 Statement A—Illinois Bell.
Chicago Area.
State Area.
Statement D.

X-355. Portions of Provisional Estimates of other Licensee Companies 1920-1930, as follows:

Portions of Provisional Estimates.

The Ohio Bell Telephone Company—letter from E. A. Reed to Mr. C. A. Heiss, dated December 22, 1922. Ohio Bell Telephone Company—Excerpt entitled: "The following five statements accompanies letter dated November 28, 1922, from E. A. Reed, President to H. B. Thayer, President, A. T. & T. Company."

6543 Indiana Bell Telephone Company—Excerpt entitled: "The following 3 statements accompanied letter dated November 20, 1922, from C. H. Rottger, President, to H. B. Thayer, President, A. T. & T. Co."

The Southern New England Telephone Company—Letter from James T. Moran to Mr. C. A. Heiss, Comptroller, dated March 8, 1923.

Letter from C. A. Heiss to Mr. James T. Moran, President Southern New England Telephone Company, dated March 12, 1923.

New York Telephone Company—Excerpt from a letter dated December 12, 1922, from Mr. Thurber, President, to H. B. Thayer, President, A. T. & T. Company: "I submit herewith Provisional Estimate for the year 1923, together with some preliminary statements as to subsequent years * * *"

Southern Bell Telephone & Telegraph Company—Letter from M. B. Hoxey to C. H. Heiss, Comptroller, A. T. & T. Co., dated 1/15/23.

Southwestern Bell Telephone Company—Excerpt entitled: "The following 3 statements accompanied letter dated
6544 November 25, 1922, from E. D. Nims, President, to H. B. Thayer, President, A. T. & T. Co."

New England Telephone & Telegraph Company—Copy of Chart taken from 1929 Provisional Estimate. It is Exhibit C, accompanying letter dated November 14, 1928, from M. B. Jones, President, to W. S. Gifford, President, A. T. & T.

Co. It shows total company stations at end of each year divided between Dial Step-by-Step, Dial Panel, Manual Magneto and Manual Common Battery.

New York Telephone Company—Excerpts from letter dated November 15, 1923, from H. F. Thurber, President, to W. S. Gifford, Executive Vice-President, A. T. & T. Co.

Indiana Bell Telephone Company—3 charts taken from the Provisional Estimate for the year 1931 which accompanied letter dated November 13, 1930, from J. F. Carroll, President, to W. S. Gifford, President, A. T. & T. Co.

X-356. Agreement dated June 19, 1919, between In-
6545 ternational Telephone Sales and Engineering Corporation and Western Electric Co., Inc. (New York corporation).

(Delivered to defendants June 16, 1932.)

X-357. Copy of agreement dated March 21, 1924, between Theodore Gary, Frank H. Woods, H. L. Gary and A. F. Adams, and Western Electric Company, Inc. (New York Corporation).

X-358. Correspondence between Western Electric and Automatic Electric, Inc., as follows:

Letter, June 25, 1929, Western Electric to Automatic Electric Inc. (2 pages).

Letter, Dec. 14, 1927, Western Electric to Automatic Electric Inc. (1 page).

Letter, November 10, 1927, International Telephone Sales and Engineering Corporation to Western Electric Company, Inc. (1 page).

Letter, November 7, 1927, International Telephone Sales and Engineering Corporation to Western Electric Company, Inc. (1 page).

Letter, Sept. 27, 1927, Western Electric to International Telephone Sales & Engineering Corporation (2 pages).

Letter, May 24, 1927, from Western Electric Com-
6546 pany, Inc. to International Telephone Sales & Engineering Corporation (1 page).

Letter, May 24, 1927, Western Electric Company, Inc. to International Telephone Sales & Engineering Corporation (1 page).

Letter, May 24, 1927, from International Telephone Sales & Engineering Corporation to Western Electric Company, Inc. (1 page).

Letter, October 17, 1929, Western Electric to Automatic

Electric, Inc. (2 pages).

Letter, Nov. 6, 1929, from Automatic Electric, Inc., to Western Electric Co., Inc. (1 page).

Copy of agreement dated March 1, 1932, between Automatic Electric Company and Western Electric Company (4 pages).

(These documents—Exhibits X-357 and X-358 were sent to defendants on May 5, 1932, in compliance with the order of court with respect to Sec. 5 of the motion of May 3, 1932, made in open court at the close of the hearing upon said motion on May 3, 1932, excepting item 1-D of said motion. The request by the defendants for these documents was made on Mar. 30, 1932, by letter, copy of which was attached
6547 to the motion.)

X-359. Copy of agreement dated March 26, 1921, between International Telephone Sales & Engineering Corporation and Western Electric Company, Inc. (New York corporation).

X-360. Memorandum regarding letter of May 26, 1927, from Electrical Research Products, Inc. to H. L. Gary.

(This document was delivered to defendants pursuant to statement of Mr. Bracelen made in open court, June 2, 1932.)

X-361. Letter, dated May 26, 1927, from International Telephone Sales & Engineering Corporation to Electrical Research Products Inc.

(This document was delivered to defendants on May 25, 1932, Rec. 2047.)

X-362. Assignment, dated Oct. 13, 1927, from International Telephone Sales & Engineering Corporation to Automatic Electric Inc.

X-363. Agreement, dated March 21, 1924, between International Telephone Sales & Engineering Corporation and Western Electric Company, Inc.

X-364. Agreement between International Telephone
6548 Sales & Engineering Corporation and Western Electric Co., Inc., dated May 24, 1927.

(Forgeoing 3 documents delivered to defendants prior to the trial.)

X-365. Advertisements of A. T. & T.—the cost of which was charged by the plaintiff as part of the costs of rendering the license contract services:

"Pennies for Wings." No. 271, May, 1931.

"What is the A. T. & T.?" No. 268, Feb., 1931.

"They Use it, They Believe In It, They Own It." No. 263, Sept., 1930.

"The Bell Telephone Company * * * of Your Town." No. 258, Apr., 1930.

"A Reduction in Long Distance Telephone Rates." No. 255, Jan., 1930.

"Where Working Together Is Everything." No. 242, Dec., 1928.

"5,000 People Whose Sole Job Is Bettering Your Service." No. 240, Oct., 1928.

"Where the Bell System's Profit Goes." No. 239, Sept., 1928.

"How Many Are 421,000 Stockholders?" No. 230, Dec., 1927.

6549 "Building on the Telephone Principle." No. 216, Oct., 1926.

"What Happens on a Call to Long Distance." Juvenile Publications, Jan. and Feb., 1931.

"How Your Voice Crosses the Country." Juvenile Publications, Sept. and Oct., 1929.

X-366. Page 1—CA-4.13—Net profits Before Deducting Federal Taxes on Sales of New A. T. & T. Instruments in Excess of 20% over complete cost provided under 1882 contract and surplus resulting from billing of warehouse expense applying on new and repaired A. T. & T. Instruments, Jan. 1, 1915, to Dec. 31, 1926.

Page 2—CAT-3.04-1—Distribution Expense on new A. T. & T. Instruments (S) for the Fiscal Year 1925.

Page 3—CAT-3.04-2—Distribution Expense on Repaired A. T. & T. Instruments for the Fiscal Year 1925.

Page 4—SCAT-4.13—Net Profits before Deducting Federal Taxes on Sales of new A. T. & T. Instruments in Excess of 20% over complete cost provided under 1882 contract and surplus resulting from billing of warehouse
6550 expense applying on new and repaired A. T. & T. instruments January 1, 1915, to December 31, 1925.

Page 5—SCAT-4.14—Net Profits on Investment in New A. T. & T. Instruments 1916 to 1925.

Page 6—CAT-3.04-1—Distribution Expense on New A. T. & T. Instruments for the Fiscal Year 1924.

Page 7—SCAT-4.13—Net Profits Before Deducting Fed-

eral Taxes on Sales of New A. T. & T. Instruments in Excess of 20% over complete cost provided under 1882 contract and surplus resulting from billing of warehouse expense applying on new and repaired A. T. & T. Instruments Jan. 1, 1915, to Dec. 31, 1924.

Page 8—SCAT-4.14—Net Profits on Investment in New A. T. & T. Instruments, 1916 to 1924.

Page 9—SCAT-4.14—Net Profits on Investment in New A. T. & T. Instruments, 1916 to 1923.

Page 10—SCAT-4.13—Net Profits Before Deducting Federal Taxes on Sales of New A. T. & T. Instruments in excess of 20% over complete cost provided under 1882
6551 contract and surplus resulting from billing of warehouse expense applying on new and repaired A. T. & T. Instruments Jan. 1, 1915, to Dec. 31, 1923.

Page 11—SCAT-4.13—Results of billing of A. T. & T. Instruments, under 1882 Contract to American Telephone & Telegraph Company, Jan. 1, 1915, to Dec. 31, 1932.

Page 12—Details of CAT-4.13—Comparison between Current and Standard Warehouse Expense on repaired A. T. & T. Instruments Handled for A. T. & T. Company (S) Jan. 1, 1915, to Dec. 31, 1924.

Page 13—CAT-3.04-1—Distribution expense on new A. T. & T. Instruments (s) for the Fiscal Year 1925.

Page 14—Details of CAT-4.13-1—Difference between Estimated and Actual Net Profits on Sales of new A. T. & T. Instruments, Jan. 1, 1915, to Dec. 31, 1924.

X-367. Net profits on New A. T. & T. Instruments—1927.

(This document was delivered to the defendants on June 15, 1932, pursuant to cross-examination of Mr. Gregory on May 25, 1932 (Rec. 3414) together with statement of
6552 Mr. Bracelen by letter of June 15, 1932, as follows:

"We understand that as a result of your examination of underlying data of the 1927 profits on A. T. & T. instruments, you request the following additional information:

(a) 1927 results on new A. T. & T. Co. instruments similar in form to previous year's results which you have available in the underlying data in your possession.

Copy of statement showing these results is attached. (X-367)

(b) Whether shop variation of current cost from stand-

ard cost (operating surplus and current underrun applicable to A. T. and T. Co. instruments) was determined in 1927 as in prior years.

In 1927, as in prior years, shop variation applicable to A. T. and T. Co. instruments was determined based on the ratio of standard shop cost of A. T. and T. Company instruments to total standard shop cost of telephone apparatus, of Western Electric manufacture.

(c) Statement as to what investment figures repre-
6553 sent and how they have been arrived at.

As explained by Mr. Gregory on the witness stand, investment applicable to American Telephone and Telegraph Company instruments comprises the same items as total investment shown on Exhibits A-77 and A-80, that is, plant at gross value, merchandise at cost or market, whichever is the lower, receivables and cash, less current accounts payable.

The records for the period 1921 to 1926, inclusive, show the investment in merchandise and receivables, applicable to A. T. & T. Co. instruments, except that portion of merchandise represented by work in progress which has been apportioned in general on the basis of standard shop cost of sales. Investment in plant, cash and payables for the same period, applicable to A. T. & T. Co. instruments, has been apportioned in general upon the basis of standard shop cost of sales but with respect to plant, the expense
6554 loadings on standard shop costs were used.

Records are not available which indicate the method used in determining the apportionment for the period 1916 to 1920, inclusive.

For 1927, average investment was determined on the basis of turnover as indicated for the period 1916 to 1926, inclusive.

The method used brings the same result over the twelve year period, 1916 to 1927, inclusive, as is obtained by taking the turnover on telephone apparatus exclusive of installation and equipment engineering, modified by the use of investment completed instruments.").

X-368. Statement entitled: "Western Electric Company, Inc.—Number of Shares of A. T. & T. Company stock on which payments were completed by Western Electric Company employes."

X-369. A. T. & T. Releases 7/15/19 to 11/2/31.

This document delivered to defendants on or about June 6, 1932, together with letter—sent June 15, 1932—in 6555 which appears following statement:

"The typed inscription 'Relating to Electrical Research Products Inc. field of business' which appeared on the binder of releases furnished you in accordance with your request, appearing at Tr. page 2832, 2833 and 2834, was stricken out because, while the binder included all the releases relating to Electrical Research Products, Inc. field of business, certain of the releases applied also to fields of business of other companies where Electrical Research Products Inc. did not have exclusive rights.

You inquire as to whether in the case of 19 releases * * *"

These 19 releases are as follows:

(1) Release, Aug. 23, 1921, Re: Loud Speaker Equipment—The Western Electric will pay a royalty of 5% on sales, both domestic and export on the part of the loud speaker telephone equipment manufactured by the Western Electric, whether sold as complete sets or spare parts; except that sales to the A. T. & T. and its licensee companies are excluded from royalty. Receipts from leases are 6556 to be classed as sales. (Page 8 of Exhibit X-369.)

(2) Release, Dec. 20, 1921: Re: Recording of Sound Waves as covered by Sound Recording agreement between the Western Electric and the General Electric, on one side, and the Phone Laboratories, Inc., on the other—"The Western Electric is to pay to the A. T. & T. 5% on the sales price of all apparatus of its own manufacture furnished under this agreement. The Western Electric is to pay to the A. T. & T., 5% of the gross royalty received by the Western Electric Co., Inc., under this agreement." (Page 10.)

(3) Release, July 15, 1919, Re: Vacuum Tubes and related Apparatus—"That it (The Western Electric) pay to the A. T. & T., 10% of the gross price representing the gross selling price of said vacuum tubes." (Page 1.)

(4) Release, Nov. 13, 1924, Re: Electrical Recording of Sound for the making of Phonograph Records—"That 6557 the Western Electric pay to the A. T. & T. a royalty of 5% on all parts of the equipment manufactured by the Western Electric. This royalty is to apply on the sales price of the Telephone Department to the Supply Department of

the Western Electric Company. That the Western Electric pay to the A. T. & T. 5% of the gross royalty and/or other payments received by the Western Electric for use of this system and apparatus." (Page 21.)

(5) Release, Aug. 11, 1926, Re: Device Similar to 3-A Audiometer—"That the Western Electric pay to the A. T. & T. a 5% royalty on its sales price." (Page 36.)

(6) Release, Aug. 11, 1926, Re: Electro-Magnetic Reproducer and Associated Apparatus—"That the Western Electric pay to the A. T. & T. a 5% royalty on its sales price." (Page 38.)

(7) Release Nov. 6, 1926, Re: System in Apparatus for Recording and Reproducing Sound in Coordination,
6558 Synchronism or Timed Relation with the Taking and Projecting of Pictures—"That the Western Electric, Inc., pay to the A. T. & T. a 5% royalty on its sales price." Also "That the Western Electric pay to the A. T. & T. 33⅓% of the gross royalties and/or other payments received by the Western Electric for the use of these systems and apparatus in the United States." (Pages 40-41.)

(8) Release, Jan. 5, 1927, Re: Manufacture for Export Systems and Apparatus for Recording and Reproducing Sound—"That the Western Electric Co., Inc., pay to the A. T. & T. a 5% royalty on the sales price." (Page 43.)

(9) Release, Aug. 21, 1928, Re: Electro-Magnetic Reproducer—"That the Western Electric Company pay to the A. T. & T. a 5% royalty on its sales price." (Page 57.)

(10) Release, May 29, 1929, Re: Six Vacuum Tube
6559 Amplifiers without Vacuum Tubes to the Commercial Cable Company—"That the Western Electric, Inc., pay to the A. T. & T. 5% royalty on its sales price. That the Western Electric pay to the A. T. & T. 33⅓% of the gross royalties and other payments received by the Western Electric, Inc., or its agents, for the use of these systems and apparatus." (Pages 64-66.)

(11) Release, Aug. 27, 1929, Re: Manufacture and Sale or lease within the United States of a System and Apparatus for the making of broadcast sound records, etc.,—"That the Western Electric, Inc., pay to the A. T. & T. a 5% royalty on its sales price on all parts of such equipment manufactured by it. That the Western Electric, Inc., pay to the A. T. & T. 33⅓% of the gross royalties and/or other payments

received by the Western Electric, Inc., for the use of this system and apparatus." (Page 67.)

6560 (12) Release May 26, 1930, re: No. 1-B Stethoscope and Similar Devices, etc.,—"That the Western Electric, Inc., pay to the A. T. & T. 5% royalty on its sales price." (Page 70).

(13) Release June 18, 1930, re: Manufacture and sale of vault protection apparatus—"That the Western Electric, Inc., pay to the A. T. & T. 5% royalty on its sales price." (Page 71.)

(14) Release October 14, 1930, re: The right to manufacture, sell or lease, or sell outside the Bell System, Apparatus for the determination of the quantity and quality of Noise, etc.,—"That the Western Electric, Inc., pay to the A. T. & T. a 5% royalty on its sales." (Page 74.)

(15) Release Dec. 16, 1930, re: Radio Telephone Equipment to the Motion Picture Industry for communication between Studios and locations where pictures are being made —"That the Western Electric, Inc., pay to the A. T. & T. 5% royalty on its sales price on all parts of each equip-

6561 ment manufactured by it." (Pages 78-79.)

(16) Release Apr. 3, 1931, re: Right to manufacture and sell any two or more of the following systems, as far as this right has not been extended by previous leases:

Public Address Systems.
Sound Picture.
Radio Broadcast Reception.
Music Distribution.
Input Equipment for Radio Broadcasting—

"That the Western Electric, Inc. pay to the A. T. & T. a 5% royalty on its sale price on all parts of each equipment manufactured by it. (Pages 81-83.)"

(17) Release June 29, 1931, re: Sale or Lease of Sound Apparatus or Radio Receivers, etc.—"That the Western Electric pay to the A. T. & T. a 5% royalty on its sales price." (page 87.)

(18) Release July 23, 1931, re: Sale or Lease of String Oscillographs—That the Western Electric pay to the A. T. & T. a 5% royalty upon its sales price." (Page 88.)

6562 (19) Release Aug. 27, 1931, re: Vault Protection Apparatus—"That the Western Electric, Inc., pay to

the A. T. & T. a 5% royalty on its sales price on all parts manufactured by it. That the Western Electric, Inc., should pay to the A. T. & T. a 33⅓% of all royalties or other payments received by the Western Electric, Inc., or its agent, with respect thereto." (Pages 90-91.)

"royalties are based on Western Electric Company's sales price only. Whenever these releases provide for a royalty based on sales price, the royalty paid is a per cent of the Western Electric Company's sales price and not a per cent of the sales price by a subsidiary."

X-370. Royalties Received by Western Electric Company, Electrical Research Products Inc. and Portion Paid to A. T. & T. Company in accordance with releases.

(This document sent to defendants June 15, 1932, together with the following statement from Mr. Bracelen:

6563 "I enclose herewith a statement showing by years the royalties received by the Western Electric Company and the Electrical Research Products, Inc., and the portion of such royalties paid to the American Telephone and Telegraph Company for the period 1916 to 1931. No portion of royalties received by the Electrical Research Products, Inc. is paid to the Western Electric Company. In addition to the amount shown on this statement, the Western Electric Company turned over in 1925, to the American Telephone and Telegraph Company on behalf of the International Western Electric, $5,000 representing the American Telephone and Telegraph Company's share of royalties received by the International Western Electric Company"; and also the following statement from Mr. Bracelen under date of June 22, 1932:

"With reference to * * * royalties in which American Telephone and Telegraph does not participate," these royalties are received from the following sources:

(a) Permalloy and submarine cables.

(b) Reproducing Apparatus—outside of the United
6564 States.

(c) Under contract with International Standard Electric Corporation and Northern Electric Company, Limited.

(d) From various manufacturing licensees.)

X-371. American Telephone and Telegraph Company—

Miscellaneous Non-Operating Revenues (Account 316)—Year 1931.

(This document delivered to defendants June 15, 1932, pursuant to request of May 5, 1932.)

X-372. Sound-Record Agreement, dated Dec. 15, 1921, between Western Electric Company, Inc. and General Electric Co.

(This document was delivered to defendants June 15, 1932.)

X-373. Handbook of Outside Plant Engineering Practices —General—of A. T. & T. and Associated Companies.

X-374. Memorandum of Agreement dated Feb. 16, 1922, between Western Electric Co., Inc. (New York Corporation) and Stromberg Carlson Telephone Manufacturing Co., covering manufacture of intercommunicating telephone apparatus.

X-375. Memorandum of Agreement dated June 1, 1920, between Stromberg Carlson Telephone [illegible]facturing Co.
6565 and the Western Electric Compan,, Inc. (New York corporation.)

X-376. Correspondence between Western Electric and Kellogg Switchboard & Supply Company, as follows:

Letter dated Sept. 18, 1922, from Kellogg Company to Western Electric.

Letter dated Nov. 11, 1922, from Western Electric to Kellogg Company.

Letter dated Nov. 15, 1922, from Kellogg Company to Western Electric.

Letter dated Dec. 4, 1922, from Western Electric to Kellogg Company.

Memorandum dated Apr. 14, 1923.

Letter dated May 8, 1923, from Western Electric to Kellogg Company.

Letter dated May 16, 1923, to Western Electric from Kellogg Company.

X-377—Correspondence between Western Electric Company and Stromberg-Carlson Telephone Mfg. Co., as follows:

Letter dated Jan. 4, 1923, from Western Electric to
6566 Stromberg-Carlson Company.

Letter dated Dec. 21, 1923, from Stromberg-Carlson to Western Electric.

Letter dated Feb. 29, 1928 from Stromberg-Carlson to Western Electric.

Letter dated March 20, 1928, from Stromberg-Carlson to Western Electric.

Minutes of Conference dated April 3, 1928.

Letter dated April 10, 1928 from Western Electric to Stromberg-Carlson.

Stromberg-Carlson Prices to the Western Electric Company on the No. 506 Cordless P. B. X. Switchboard—Board Equipped with "AH" keys.

Same—equipped with new No. 529 keys.

Stromberg-Carlson prices to the Western Electric Company on Maintenance and Replacement Apparatus and on the Repair of "AH" Apparatus for No. 506 Cordless P. B. X. Switchboards.

6567 Letter dated October 20, 1928 from Western Electric to Stromberg-Carlson.

Letter dated November 5, 1928 from Western Electric to Stromberg-Carlson.

Letter dated December 6, 1928 from Western Electric to Stromberg-Carlson.

Letter dated February 20, 1929, from Western Electric to Stromberg-Carlson.

X-378. Agreement between Western Electric Company, Inc., and International Standard Electric Corporation, dated March 30, 1928.

X-379. Memorandum of Agreement dated January 1, 1919, between International Western Electric Co., Inc., and Northern Electric Co., Limited.

X-380. Memorandum of Agreement dated Aug. 27, 1919, between International Western Electric Co., Inc. and Western Electric Co., Limited, Northern Electric Co., Limited, and the Bell Telephone Company of Canada, Limited.

X-381. Supplemental Patent Agreement—American Telephone & Telegraph Co., Western Electric Co., Inc., In-
6568 ternational Western Electric Co., Inc., Northern Electric Co., Ltd., The Bell Telephone Co. of Canada, Ltd., dated May 16, 1923.

X-382. Assignment from International Western Electric Co., Inc., to Western Electric Co., Inc. (New York corporation) of its rights in connection with agreement between

Assignor and Northern Electric Co., Ltd., dated Jan. 1, 1919, which assignment is dated Sept. 30, 1925.

X-383. Agreement between Western Electric Co., Inc. and Victor Talking Machine Co., Inc. dated June 26, 1925.

X-384. Assignment from Western Electric Co., Inc. (New York corporation) to Electrical Research Products, Inc. of its right, etc., in agreement between Assignor and Victor Talking Machine Co. of June 26, 1925, which assignment is dated Jan. 3, 1927.

X-385. Agreement between Western Electric Co., Inc., and Victor Talking Machine Co., Inc., dated March 18, 1925.

X-386. Agreement between International Western Electric Co., Inc., and Victor Talking Machine Co. dated
6569 May 1, 1925.

X-387. Agreement dated July 19, 1926, between Western Electric Co., Inc., and Victor Talking Machine Co.

X-388. Memorandum of Agreement between Victor Phonograph Co. and Electrical Research Products, Inc., dated Jan. 11, 1928 (4 sheets).

X-389. Agreement dated Feb. 26, 1925, between Western Electric Co., Inc. (New York Corporation) and Columbia Phonograph Co., Inc. (19 sheets).

X-390. Agreement between International Western Electric Co., Inc. and Columbia Phonograph Co., Ltd., dated April 22, 1925.

X-391. Agreement between International Western Electric Co., Inc. and the Gramophone Co., Ltd., dated May 1, 1925.

X-392. Agreement between Western Electric Co., Inc., and the Gramophone Co., Ltd., dated Jan. 19, 1926.

X-393. Agreement between Electrical Research Products, Inc. and The Gramophone Co., Ltd., dated Aug. 10, 1927.

X-394. Agreement for Western Electric Sound System, Plan B2-N. D. P.-52W between Electrical Research
6570 Products, Inc. (subsidiary of Western Electric Company) etc. (Form 315 T. S.).

X-395. Agreement between American Telephone and Telegraph Co. and The Bell Telephone Company of Canada, Ltd., covering services, licenses, and privileges, dated May 16, 1923.

X-396. Copy of General Contract—agreement dated Nov.

1, 1880, between the Canadian Telephone Company, Ltd., and The American Bell Telephone Company, The Bell Telephone Company of Canada, the American Speaking Telephone Company, The Gold and Stock Telegraph Company and The Western Union Telegraph Company.

X-397. Certified copy of resolution adopted by Executive Committee of A. T. & T. at meeting Jan. 15, 1924; certified copy resolution adopted at meeting Jan. 7, 1925; certified copy resolution adopted at meeting Jan. 13, 1926; certified copy resolution adopted at meeting Jan. 12, 1927; and certified copy resolution adopted at meeting Jan. 18, 1928.

X-398. Electrical Research Products, Inc.—General Auditing Dept.—Condensed Summary of Results of Talking
6571 Motion Picture Business for the year 1929 compared with Budget for the Year 1930.

Same Results—for year 1928 compared with Budget of 1929.

Profits on Sales of Sound Picture Equipment as Published for the Years 1926 to 1930, inc.

Combined results of Western Electrical Co., Inc., Electrical Research Products, Inc., and its subsidiaries on Talking Motion Picture Business years 1926 to 1931.

Results on Talking Motion Picture Business 1926-1931 Foreign Subsidiaries—Gross Revenue.

Condensed Summary of Results for year 1927.

Summary of Results by Classes of Business—Twelve Months of 1930.

Same for 1931.

(These documents were furnished by plaintiff to defendants June 14, 1932, together with following statement of June 15, 1932:

"The main items of investment involved are plant at face value, merchandise, receivables and cash, less current
6572 accounts payable, in the Western Electric Company, and in the Electrical Research Products, Inc., in this country and abroad.

Western Electric Company.

The method of determining the amount of plant and merchandise investment devoted to sound picture business is in general by the use of standard shop costs. In this com-

putation, however, there is excluded plant and merchandise investment of the Installation Department, Merchandise Department and distributing houses practically none of which is involved in the sound picture business.

The investment in receivables is determined definitely on the basis of the investment actually on the books in these receivables.

Cash and payables applicable to sound picture business are determined by the use in general of standard shop costs.

Electrical Research Products, Inc. Domestic.

The apportionment of the elements of investment to sound picture business involves the fact that in 1927, 1928 and
6573 1929, two separate sets of books were maintained as follows:

At 57th Street, Covering local operations.

At 195 Broadway, Covering general operations.

For 1930 and 1931 these books were merged and maintained at 57th Street.

The apportionment was made as follows:

Plant: Practically 100 per cent sound picture business.

Merchandise: All sound picture business at Western Shop cost less depreciation.

Receivables: As shown by the books with respect to Accounts with exhibitors and producers and with others in connection with non-theatrical sound picture business.

Cash: For 1927, 1928 and 1929, all cash on the 57th Street Books plus practically all cash on the 195 Broadway
6574 books; for 1930 and 1931 approximately 90 per cent of the total cash.

Payables: For 1927, 1928 and 1929, all payables on the 57th Street books, for 1930 and 1931 apportioned between sound picture business on the basis of volume. Payables include the reserve for royalties to be returned to the Vitaphone Corporation.

Electrical Research Products, Inc., Foreign.

All investment in the foreign companies was with respect to sound picture business and represents capital stock plus the open account as carried on the Electrical Research Products, Inc., domestic books plus surplus on the foreign subsidiary company books.")

X-399—Portions of Plaintiff's Exhibit No. 1 not contained in printed record—Plaintiff's numbers as follows:

Pages 16, 19, 54, 125, 126, 133, 134, 135, 136, 137, 138 and 143.

6575 X-400. Supplement to City's Exhibits furnished by plaintiff.

Detail of X-400.

Supplemental to City's Exhibit		Brought Down to
19	Illinois Bell Telephone Company—Annual Charge Percentages Applicable to Long Lines Plant in Chicago	9/30/31
44	Illinois Bell Telephone Company—Distribution of Chicago Gross A. T. & T. Company Tolls between Illinois Bell Tel. Co. and A. T. & T.—1926-1930	1931
46	Illinois Bell Telephone Company—Percentage of outstanding stock as of December 31 of each year owned by A. T. & T. Co. in its own name or in the name of others held for it	1931
53	Agreement in connection with Employees' Stock Plan—dated June 10, 1921, between A. T. & T. and Illinois Bell Tel. Co.	
54	Illinois Bell Telephone Company—Payments made to A. T. & T. covering collections under the Employees' Stock Plan	1931
6576 57	Illinois Bell Telephone Company—Purchases from Western Electric Company	1931
69	Illinois Bell Telephone Company—Average Number of Telephone Sets	1931
75	Illinois Bell Telephone Company—Advances from A. T. & T. during years 1926 to 1930	1931
80	Illinois Bell Telephone Company—Balance Sheets—Years 1926 to 1930	1931
81	Illinois Bell Telephone Company—Dividends 1926 to 1930	1931
82	Illinois Bell Telephone Company—Entire Company, Net Earnings Available for Interest and Dividends	1931
117	Illinois Bell Telephone Company—Chi-	

		cago Exchange—Amount of Billing to the A. T. & T. for operating the Toll Properties devoted to Long Lines Service in Chicago—1926-1930	1931
6577	142	A. T. & T.—Average Loans to Each Licensee Company (Dividing the Sum of the loans outstanding on the first day of January, April, July and October by 4)—Answer to question, p. 2044 Transcript of Record	1931
	142A	A. T. & T.—Amounts received from all Associated Bell Companies for License Payments during the years 1918-1928—answer to question p. 2044 Trans. of Record	1931
	142C	A. T. & T.—Illinois Bell Telephone Company Estimated Requirements and Cash taken—Years 1918 to 1928—Recheck of Testimony, pp. 2110-2112, Trans. of Record, p. 2135.	1931
	142D	Answer to question p. 2051 Trans. of Rec.—revariation during 1918-1930 from Charge A. T. & T. made to subsidiary (licensed) companies for moneys loaned, if such charge other than 6% with 2% discount for cash	1931
6578	148	Supplemental answer to question pp. 2047 and 2050 Trans. of Rec.—A. T. T.—Cost of Capital Funds Procured by the American Company through Sale of Stock, Bonds and other Borrowings	1931
	151	Illinois Bell Telephone Co.—Total Number of Employees, Number of Employees eligible to subscribe, Number of Shares of A. T. & T. Stock issued to Employees during year, Number of shares A. T. & T. Stock under Subscription end of year and % of Total Employees subscribing	1931

X-401. Reoffer of City's Exhibits 157 to 157J re Central Union.

X-402. All correspondence between counsel and parties.

X-403. Ruskin's statement of number of pages in CR and MR Reports furnished by plaintiff at later date.

6579 X-404. Balance sheets of Graybar Electric Co. for years 1929, 1930 and 1931, with certificate of Assistant Secretary attached.

(These were delivered to defendants by Mr. Thompson in open court on June 15, 1932.)

X-405. Statement entitled: "a/c Profit on Investment in Business with Illinois Bell 1916-1931 and 1923-1931.

(This is working paper for Exhibits A-93-96 and was furnished by plaintiff.)

X-406. Burgess Index Numbers:

Index Numbers
Western Electric Company, Inc.,
General Statistical Division.

List of Pages.

1. Table of Contents (1 sheet).
2. Some Important Principles of Index Number Construction (4 sheets).
3. Uses of Index Numbers (2 sheets).
4. Trend of Raw material prices.

6580 5. Raw material price index December, 1930 (2 sheets).

6. Trends of prices to Associated Companies (1 sheet).
7. Description of method used in compiling the trend of Western Electric Prices for lead-covered cable sold to Bell Telephone companies (2 sheets).
8. General method of construction of telephone supplies price index (1 sheet).
9. Telephone supplies price index (1 sheet).
10. Derivation of 1930 supplies index (1 sheet).
11. Summary table of group weighting for telephone supplies index (1 sheet).
12. Description of method used in compiling the trend of Western Electric prices for special services performed for Bell Telephone companies (2 sheets).
13. Description of method used in compiling the trend of Western Electric prices for telephone apparatus sold to Bell Telephone companies (4 sheets).
14. Relation of bulletin cost used during each fiscal year to those in 1915 as 100 per cent base (1 sheet).

15. Letter dated February 7, 1931, from R. A. Gran-
6581 quist to P. J. Savage, Manufacturing Accountant (1 sheet).

16. Letter dated November 13, 1931, from A. L. Luessenhop to R. W. Burgess (1 sheet).

X-407. Illinois Bell Tel. Co.—State Area—Annual Gross Additions, Displacements and Net Additions to Plant in Service and General Equipment.

X-408. Illinois Bell Tel. Co.—Chicago Area—Book Cost of Central Office Telephone Equipment.

X-409. Illinois Bell Tel. Co.—Chicago Exchange—Company Stations.

X-410. Illinois Bell Tel. Co.—Chicago Exchange—Figures used in arriving at average assets for 1923.

X-411. Illinois Bell Tel. Co.—Chicago Exchange—Amount of Construction Work in progress shown on Exhibit A-53 as of the end of each year 1923 to 1931, inclusive.

X-412. Illinois Bell Tel. Co.—Chicago Exchange—Amount of 3 per cent Tax, years 1929 to 1931.

6582 X-413. Illinois Bell Tel. Co.—Chicago Exchange—1930 Taxes.

X-414. Illinois Bell Tel. Co.—*re* Account 510.

X-415. Illinois Bell Tel. Co.—Chicago Exchange—Public Pay Stations.

X-416. Advice No. 40, dated July 15, 1919, to Public Utilities Commission, Springfield, Ill., with accompanying schedules issued by Chicago Telephone Company, etc. (17 sheets). Attached petition with Exhibit A.

X-417. Correspondence between A. T. & T. and Illinois Bell Tel. Co. Letter dated Mar. 4, 1924, from A. T. & T. to Illinois Bell; and Accounting in connection with purchase of U. S. Treasury 4¼% Certificates by Illinois Bell from A. T. & T. in Dec., 1923, and sale by Illinois Bell to A. T. & T. in March, 1924.

X-418. Illinois Bell Tel. Co.—Stock purchased by A. T. & T.—Years 1929 to 1931, incl.

X-419. Illinois Bell Tel. Co.—Prices at which A. T. & T. stock offered to employes.

6583 X-420. Executive Committee Minutes and Documents called for therein:

(a) Agreement of June 13, 1913, between Morkuum Company, Western Electric Company, Inc., and American Tele-

phone & Telegraph Company.

(b) Agreement of August 7, 1924, between Western Electric Company, Inc., and Western Union Telegraph Company.

(c) Letter of August 14, 1925, to Western Electric Company, Inc., signed by W. S. Gifford, President of American Telephone & Telegraph Company.

(d) Agreement of October 6, 1925, between Automatic Electric Company, American Telephone and Telegraph Company and Western Electric Company, Inc.

(e) Agreement of April 20, 1927, between Central Electric Company, American Telephone and Telegraph Company and Westinghouse Electric & Manufacturing Company.

(f) Agreement of April 20, 1927, between General Electric, American Telephone and Telegraph Company, Westinghouse Electric and Manufacturing Company and Atlantic Pre-
6584 cision Company.

(g) Agreement of June 30, 1926, between Automatic Electric Securities Company, Automatic Electric, Inc., American Telephone and Telegraph Company and Western Electric, Inc.

(h) License Agreement of July 17, 1928, between Stromberg-Carlson Telephone Manufacturing Company, Western Electric Company, and American Telephone and Telegraph Company.

(i) Letter of June 12, 1928, to W. S. Gifford, President of American Telephone & Telegraph Co. signed by Edgar S. Bloom, President of Western Electric.

(j) Agreement of September 11, 1930, between American Telephone & Telegraph Company and Sterling Morton.

(k) Contract of May 24, 1927, whereby American Telephone & Telegraph Company extended franchise agreement with Automatic to 1936.

6585 X-421. Western Electric Sheets furnished in connection with Gregory Exhibits 1 and 7 in Ohio Case, as follows:

Division of Western Electric Company sales for 1928, 1929 and 1930 of Telephone Apparatus, Lead-Covered Cable and Supplies to the Illinois Bell Telephone Company between Chicago and State.

Non-Bell Assets Transferred to Electrical Research Products, Inc.

Depreciation included in Cost of Sales Bell and Non-Bell Business 1916 to 1930, inclusive.

Depreciation used in Federal Income Tax Returns, Bell and non-Bell Business 1916 to 1930, inclusive.

Analysis of Returns and Reissues 1916 to 1930, inclusive.

Sales to American Bell Telephone Company and American T. & T. Co. 1916-1930, incl.

Division of Total Sales to Bell Customers, 1916-1930, incl.

6586 Division of Sales of Lead-Covered Cable 1916-1930, incl.

Division of Sales of Supplies 1916-1930, incl.

Division of Sales of Telephone Apparatus 1916-1930, incl.

Special Services Included in Total Sales to Bell Customers Analyzed by Classes of Service (A) 1916-1930, incl.

Billing of Installation Work and Equipment Specifications to Bell Customers 1920-1930, incl.

Net profits and Per Cent of Sales, Bell Customers 1916-1930, incl.

Earnings on Investment—Air Reduction Company, Inc.

Analysis of Sales of Supplies to non-Bell Customers, 1916-1930, incl.

Analysis of Total Sales—1916-1930, incl. (Schedule A).

Analysis of Sales to Bell Customers 1916-1930, incl. (Schedule B).

6587 Analysis of Sales to non-Bell Customers 1916-1930, incl. (Schedule C).

Net Profits and per cent of Sales non-Bell Customers, 1916-1930, incl.

Orders on Hand at December 31.

Western Electric Co., Inc.—CA-8-19-2.—Analysis of Reserve for Contingencies Years, ending Dec. 31st (prior to 1919, Nov. 30th).

Total merchandise Inventories 1916-1930, inclusive.

Charges made by Western Electric Co., Inc., to Subsidiaries for General Supervisory and Patent Services 1916-1930, incl. (a).

Analysis of Investment and Marketable Securities at Dec. 31, 1916-1930, incl.

Analysis of Other Income as shown on Reports to Stock-

holders and Average Interest Rates on Advances to Subsidiaries 1916-1930, incl.

Expenses allocated to Royalties Received and Patents Sold 1928-1930, incl.

6588 Analysis of Royalties, Patents Sold and Other Miscellaneous Income for the Years 1928, 1929 and 1930.

Royalties Received by Subsidiaries of the Western Electric Co., Inc., 1902-1930, incl.

Analysis of Other Income (net) for Years 1928, 1929 and 1930.

Bond Discount and Expenses on Sale of Bonds, 1916-1924, incl.

Western Electric Co.—Engineering Department—Expense by Apparatus Classifications for the year 1916 (2 sheets).

Same for year 1917 (2 sheets).

Same for year 1918 (2 sheets).

Western Electric Co., Inc., Engineering Department Expense for the Year 1919.

Western Electric Company, Inc.—Engineering Department —Expense by Apparatus Classification for the year 1920.

Same for year 1921.

6589 Same for year 1922.

Same for year 1923.

Same for year 1924.

Western Electric Company—Investment in Products Company (2 sheets).

Comparison of Investments in and Advances to Subsidiary Companies and Marketable Securities at Dec. 31, 1927, and Dec. 31, 1926.

Owned Factories of the Western Electric Co., Inc., at June 30, 1931.

Basis of Price to Graybar Electric Company.

Basis of Price of Teletype Equipment to Bell Companies.

Some Instances of Acquisitions and Disposals of Property for other than Cash during the period 1915 to 1930, incl.

Profits on Sale of International Western Electric Company, Incorporated, to the International Telephone and Telegraph Corporation—September 30, 1925.

6590 Earnings for 1931 and 1932 on Prospective Bell Business as Estimated June 10, 1931.

Taxes Paid (1916 through 1930).

Sales of Telephone Receivers, Transmitters and Induction Coils, 1916 to 1930, incl.

How the Western Electric Company, Inc., functions with respect to Installation of Broadcasting Stations.

Sales (Approximate) of Broadcasting Equipment to Graybar Electric Company, Inc., 1925 to 1930, incl.

Method of Determining Amount paid by Graybar Electric Co., Inc., to Western Electric Company, Inc., for its supply department business.

Sales by the Western Electric Company, Inc., of Telephone Apparatus, Lead-Covered Cable and Supplies of all Bell Telephone Companies expressed in percentages of total sales to Bell Companies and Sales to the Illinois Bell Tel. Company of the same expressed in Percentages of Total Sales to that Company—1916-1930, incl.

6591 X-422. Stock Issue Data, 1920-1931, for A. T. & T. Co.

X-423. Approximate Sales of Panel and Step-by-Step Machine Switching Switchboards 1920-1931, inclusive (A); also Approximate Number of Lines of Panel and Step-by-Step Machine Switching Switchboards 1918-1931, inclusive (a) (2 Sheets).

X-424. Memorandum of proposed agreement between American Telephone and Telegraph Co. and Central Union Telephone Company, dated New York, Feb. 15, 1894 (2 sheets).

X-425 Relating to subject-matter of Plaintiff's Exhibit A-67, 68 and 69.

X-426. Contracts, Schedules, Filings and Documents of Illinois Bell Telephone Company relating to Exchange and Toll Services in Chicago Area effective during period 1923-1931, both inclusive.

X-427. Pursuant to request of defendants, plaintiff, on June 19, 1932, furnished copies of all contracts that ever existed in the Bell System containing a provision similar
6592 to Section 10 of the contract of Dec. 23, 1881, with the Chicago Telephone Company, being City's Exhibit 23. The plaintiff has furnished two contracts as being the only ones ever made containing provisions similar to Section 10.

Agreement dated June 1, 1880, by and between the American Bell Telephone Co. and the Metropolitan Telephone Company; and,

Agreement dated May 7, 1880, between the National Bell Telephone Co. and the Pacific Bell Telephone Co.

Said two agreements are as follows:

X-428. Request for and copies of contracts on forms 109C, 109D, 113C, 113D and 116D.

On May 16, 1932, defendants made the following request:

"In connection with the matter of Interstate Separation, we will ask you to please furnish us a copy of form of contract referred to as 'Lessor's Standard Form 109C,' 6593 which was referred to in paragraph (1) of the contract of January 1, 1894, between the American Bell Telephone and the American Telephone & Telegraph Co., appearing in Record Vol. VI, page 1993; also, any other forms of exchange contracts, if any existed, which regulated the payments to the exchanges by the A. T. & T. under paragraph 8 of the same contract, as therein referred to, appearing on page 1997 of Record Vol. VI."

Pursuant to said request, plaintiff furnished the following:

Form 109C Form 109D
Form 113C Form 113D
Form 116D

X-429. Order of July 31, 1919, in connection with petition X-416. I. P. U. C.

X-430. I. P. U. C. No. 2—Chicago Telephone Company—Schedule of Toll Rates, filed July 16, 1919, in Case No. 9291.

X-431. Petition of November 15, 1919, in Cases 8672 6594 and 9291, I. P. U. C.

X-432. Illinois Bell Tel. Co.—Data relative to stock issues 1920-1930.

X-433. Letter dated August 26, 1927, to Telephone Company Presidents re prices on approximately 50 classes of telephone apparatus.

X-434. Letter Dated Oct. 17, 1930, to Frederick H. Read, President of Mountain States Telephone & Telegraph Co. from Edgar S. Bloom with sheet attached entitled: "Important Price Increases effective Nov. 1, 1930."

X-435. MR and CR Reports as follows:

Reports as of December, 1929.

Illinois Bell Telephone Co.

MR No. 1 No. 1 Reverse No. 1A
MR No. 2 Annual Report No. 2A
MR No. 3

MR No. 4
MR No. 5
MR No. 6
MR No. 7 Quarterly Report No. 7A
Monthly Analysis No. 10—State of Illinois.
" " No. 10—State of Indiana

6595 MR No. 14
MR No. 21
No. 22A 22B (sheet 1) 22B (sheet 2)
No. 22C
MR No. 23 (sheets 1 and 2)
CR No. 14 (sheet 1)
CR 51B
CR 52
CR 53A
CR 54
CR 54A
CR 64A
CR 65B
CR 67
CR 67A (Sheets 1 and 2)
CR 67B
CR 76
CR 86
CR 89
CR 91 (2 sheets)
CR 97"

6596 "Mr. Adcock: If we are through with that, we would like to offer some more.

Mr. Goldstein: Some depositions.

Mr. Adcock: Pursuant to an order of December 4, 1931, and a supplemental order of December 8, 1931, certain depositions were taken at New York of various witnesses whose names appear in the first part of the depositions as they have been returned by the Commissioner to this court.

We offer in evidence those depositions, that is, the depositions of all of those witnesses except the depositions of the witnesses that have been offered by plaintiff.

Mr. Blackman: Well, I have offered only the cross.

Mr. Goldstein: We will offer everything you do not.

Mr. Adcock: Then we will offer the direct, or redirect, or re-redirect, or whatever it may be, offer everything except

the cross, as to each witness.

(See Abstract of Depositions, *infra*, pages 2105 to .....)

We also offer all of the exhibits that were identified in the course of the taking of those depositions, and some of them were offered in evidence, I think practically all were offered at the time, numbered from 1—they are designated as depositions, exhibits, defendants' deposition Exhibits 1 to 197, both inclusive, and I ask that the record show that they may
6597 be so designated, so far as this record is concerned, without being renumbered.

Then, there are some D-exhibits—

Mr. Blackman: I would like to say a word on that.

Mr. Adcock: Very well.

Mr. Blackman: As to that, your Honor, I would say that that is in the way of piling Ossa on Pelion. We have had these five thousand pages of exhibits just offered. Now, here we have the testimony taken before trial of, I think, more than a score of witnesses in New York, and 190 odd exhibits which were produced on the demand of the defendants, in connection with that examination. Now, all of that is dumped indiscriminately before this court.

Mr. Adcock: We have not taken the time necessary to read each deposition and offer each exhibit.

Mr. Goldstein: You have abstracted this testimony already.

Mr. Blackman: Yes, I know we have.

Mr. Goldstein: Then, are you objecting that we have not read them?

Judge Wilkerson: Let counsel finish.

Mr. Blackman: There is a part of this testimony that plaintiff would be very glad to have the court read, but we do think that putting it in here for no real purpose at
6598 all is an imposition on the court, and is really padding of the record. There were hundreds of pages of testimony taken there that have absolutely no direct bearing on the case. They tell about the American Telephone & Telegraph Company, and, of course, the American Telephone & Telegraph Company has in a way been made a party. These exhibits—many of them were demanded for the purpose of furnishing the defendants with an opportunity to demand

other things. They did not know exactly what they wanted to do, where they wanted to fish, and these things were demanded to give them information.

Now, having got that information, they have gone to the records and got their figures and put them in. Now, why should the fishing poles be put in, too? I see no objection—well, there is no object, whatever, in that.

Now, with regard to one of these, I have a specific objection as to one of the exhibits. I made objections on the record, but in view of the lateness of the time in connection with the trial of this case, I shall not repeat any of those objections here. I will waive them all but one. But there was an exhibit. I haven't the number just now, attached to
6599 the direct examination of Mr. Blair Smith, which he produced at the demand of the defendants. He had it in his hand during the trial, and took some figures from it. It is Exhibit 7 for identification, deposition Exhibit 7.

Mr. Goldstein: What was the number, Mr. Blackman?

Mr. Blackman: Deposition Exhibit 7 for identification.

Mr. Goldstein: What was the title?

Mr. Adcock: What was the title?

Mr. Blackman: The paper was not prepared by the witness, it was not vouched for by him in any way. He said it was prepared by a clerk in his department at the request of Mr. Heiss to show certain facts in a certain way. We did not produce it, we did not offer it for any purpose. The witness had it at the time of the examination as a source from which he could answer certain questions readily.

Judge Wilkerson: As a memorandum?

Mr. Blackman: Yes, as a memorandum. Now, they saw the paper and asked it be marked for identification, and they are now offering it in evidence. There is no foundation for it, sir, whatever; it is perfectly incompetent, and I object to it on that ground.

Mr. Goldstein: The record speaks for itself.

Judge Wilkerson: You may note the objection on the
6600 record.

Mr. Blackman: Yes, sir. Now, I do object on the same ground that Mr. Braceler objected to the dumping on this court of 193 exhibits which I say, most of them were merely fishing poles, they pulled out those papers in order to get information to know where to go to get things that

they really wanted.

Mr. Adcock: I don't think that is a fair statement at all.

Mr. Blackman: Many of them were.

Mr. Goldstein: I think it is the most damaging part of your case you are trying to exclude.

Mr. Adcock: We want the full story.

Judge Wilkerson: Well, it is human nature to try to do that.

Mr. Goldstein: And that is about all you can say for it.

Mr. Blackman: Have you any more to offer?

Mr. Adcock: Oh, yes, there are some D-exhibits that have been identified and not offered. We desire to offer those D-exhibits, which have been identified but not formally offered.

Mr. Goldstein: D-140 and D-141. They have been identified.

6601 Judge Wilkerson: Any other offers?

Mr. Blackman: Yes, sir, I would like to state this—

Judge Wilkerson: Of course, in an equity case, it is about as easy, where an exhibit is offered, to receive it, as it is to exclude it, because it makes no difference in the size of the record, because the record has to show that offer any way, and if it is received in evidence, and it is immaterial, the court will be presumed to exclude it, and I think counsel may safely assume in this case that the court will not pay any attention to this great mass of material unless it is specifically drawn to its attention in connection with some point.

Mr. Goldstein: That's all right—fine.

Judge Wilkerson: So that the beneficiary of a large part of this printing will be the printing firm which does the work and gets paid for it.

The court will not look into it, or pay any attention to it, but if you want a nice job of proof-reading, and want to pay the printer some money, go ahead. If the court excluded it, it would make just as large a record, and probably larger, because in that case there would be the offer and the offer excluded.

Mr. Goldstein: We think it is material for every point
6602 we will bring to your Honor's attention.

Judge Wilkerson: All right, if you feel that way about it.

Mr. Goldstein: Yes, sir, we do. We have been conscientious in trying to present all of the facts, pursuant to the order of the Supreme Court.

Judge Wilkerson. Then the court will probably find it instructive in connection with the points.

It may be received in evidence, subject, of course, to any motion to strike that may be made after counsel for the plaintiff have had an opportunity to examine the exhibits.

Mr. Goldstein: Yes?

Judge Wilkerson: That may be, of course, important to the plaintiff if in this case it should be necessary for the plaintiff to assume the burden of printing the record in the Supreme Court, but if you have to assume the burden of printing it in the Supreme Court, I don't suppose they care."

(Which said depositions, and/or the parts thereof designated, so offered and received in evidence are attached hereto, and made a part of this record.)

6603 (Which said depositions exhibits was so offered and received in evidence as Deposition Exhibits Nos. 1 to 197, both inclusive.)

6604 (Which said exhibits, D-140 and D-141, were so offered and received in evidence.)

6605 "Mr. Blackman: In order to make my record exact, sir, I find that it is not quite clear from the record itself whether the following exhibits were actually marked in evidence. They were offered, and I would like to re-offer them now: A-111 to 113, A-114 to 117, A-118 and 119. Also A-198.

Now, with regard to Exhibit A-219, it appears that in the record as if that had been offered and received. That, your Honor will recollect, was an exhibit in which I called the witness' attention to one line in the exhibit from which he could have—this was the witness Rainwater—from which he could have obtained the correct figures for the lines showing that in their own exhibits they had the corect figures.

Now, we do not wish that exhibit, the entire exhibit, in evidence. We do not father it at all. In fact, there are computations in it—

Judge Wilkerson: Well, limit your offer to the particular portion.

Mr. Goldstein: And we will offer the balance.

Mr. Blackman: I limit my offer to the line.

Mr. Goldstein: And we will offer the balance.

Judge Wilkerson: And you will assume the responsibility for the rest of it. Very well.

6606 Mr. Goldstein: Correct."

(Which said documents marked Plaintiff's Exhibits A-111 to A-113, inclusive, Plaintiff's Exhibits A-114 to A-117, inclusive, Plaintiff's Exhibits A-118 and A-119, and Plaintiff's Exhibits A-198 and A-219 were received in evidence.)

6608 "Mr. Blackman: I understand that you have offered every exhibit attached to the deposition.

Mr. Goldstein: That is right.

Mr. Blackman: There is one there that I want in.

Judge Wilkerson: Now, have you offered everything?

Mr. Goldstein: I think Mr. Blackman has one to offer.

Judge Wilkerson: I thought you had another bundle here you didn't offer.

Mr. Goldstein: No.

Mr. Adcock: We have sent those out. We didn't think the court would like them.

Judge Wilkerson: You have eliminated them?

Mr. Adcock: Yes.

Mr. Blackman: I offer in evidence this list of the material which the American Telephone & Telegraph Company furnished to the defendants at their demand; I have submitted it to Mr. Goldstein, and we understand there is no question about it.

Mr. Goldstein: I haven't had an opportunity to check each one of those, but I presume they are correct. We will get the dates.

Mr. Blackman: There are the dates.

Mr. Goldstein: Are the dates on? All right. What is the number of this exhibit?

6609 Mr. Jones: A-270."

(Which said document so offered and received in evidence, was marked Plaintiff's Exhibit A-270.)

6610 "Mr. Goldstein: Now, Mr. Thompson, I would like to get this in the record.

Mr. Thompson: That's all right. I have no objection.

Mr. Goldstein: By agreement, the letter of June 30th, of Mr. Thompson, addressed to counsel for the defendants, covering the request made by me of Mr. Gregory on cross-examination, to state which of the items in Exhibit A-253 were

prepared for the defendants, prepared for Touche, Niven & Company, and which copies of data, agreements, statements of reports were already prepared—that will stand.

Mr. Thompson: No objection.

Mr. Goldstein: Now, Mr. Blackman, we were to check the number of exhibits which were referred to by Mr. Blackman, for convenience, as grouped, and the check has now been made, and we find the following:

Mr. Blackman: Just put your letter in evidence.

Mr. Goldstein: All right.

Mr. Blackman: I will just give the stenographer these.

Mr. Goldstein: All right. Three sheets are to replace the—

Mr. Blackman: Those are our original sheets.

6611 Mr. Goldstein: Yes, but these three sheets are to replace the figures—the copies of the exhibits which you have read into the record, subject to my check.

Mr. Blackman: Yes.

Mr. Goldstein: These three sheets, indicating the correct number of exhibits covered by the—

Mr. Blackman: Those sheets indicate the additional exhibits in which the matters that we brought out on cross-examination of Mr. Rainwater appear.

Mr. Goldstein: But you are not to include in it, on the sheets, the headings?

Mr. Blackman: No.

Mr. Goldstein: Yes. If you want the letters to go with it, all right.

Mr. Blackman: Just put your letter in, and that qualifies my original offer.

Mr. Goldstein: This is Exhibit X-439. By agreement, X-439 shows the check of the number of Rainwater exhibits referred to by Mr. Blackman, and read into the record in connection with his cross-examination."

(Which said document was so offered and received in evidence, and was marked Defendants' Exhibit X-439.)

6612 "Mr. Adcock: We should like to furnish for the record, simply for clarity, the number of exhibits that have been offered and described in various ways. We would like to offer for the record, at the suitable time to be supplied, the description of our different exhibits, with the numbers set up.

Mr. Goldstein: And the headings.

Mr. Adcock: So that they can be referred to, and there

will be no question about the exhibit.

Judge Wilkerson: Well, that will not be an exhibit.

Mr. Adcock: No.

Judge Wilkerson: That will be a part of the abstract.

Mr. Adcock: Yes, that will be a part of the abstract. We will do that, and plaintiff may do the same.

Judge Wilkerson: That is a matter upon which you should agree, I suppose.

Mr. Adcock: Yes.

Mr. Bracelen: Plaintiff rests."

WHEREUPON THE PLAINTIFF RESTED ITS CASE IN REBUTTAL.

"Mr. Goldstein: The defendants rest."

6613 WHEREUPON THE DEFENDANTS RESTED THEIR CASE.

WHICH WAS ALL OF THE EVIDENCE OFFERED OR RECEIVED AT THE HEARING OF THE ABOVE-ENTITLED CAUSE.

"Judge Wilkerson: Now, what about the briefs in the
6614 case? Have you any suggestions to make? At the time of oral argument, will you be ready to argue this case in September?

Mr. Bracelen: We can be ready if necessary. I doubt whether we ought, in fairness to ourselves or the court, to attempt to be ready to argue it at that time.

Judge Wilkerson: I spoke to Judge Evans about that the other day, when it appeared that the record in this case
6615 would be considerably longer than we had anticipated, and that the time of putting it in was greater than had been thought.

This is the 1st of July. Judge Evans will necessarily be occupied in the Court of Appeals continuously after the first Tuesday in October. That call there usually takes six or seven weeks in October and November. If the case is not argued the last week in September, it will probably be necessary to postpone the argument until about the 1st of December. I don't know that that will be necessary, but it is a probability. We can fix the time for the briefs now, abstract and briefs, and let the matter of oral argument go over to a date fixed by the court after the briefs are filed. Perhaps that

would be the better way; although Judge Page not being here regularly, it will probably be necessary to arrange with him sometime in advance as to the argument.

It might be well to fix by agreement now, if it can be done, the time for preparation of the abstract and the filing of the briefs, and defer the fixing of the time precisely for the oral arguments until some time in September. That could be done. I will receive your suggestions about that. I have no views about it. I think we are disposed to comply with the
6616 wishes of counsel in the matter, if we can agree on it. Can they?

Mr. Bracelen: If your Honor please, the suggestion of counsel of both sides is that the plaintiff have until the first of October in which to serve its brief upon counsel for the defendants, and they have until the 15th of November in which to serve their answering brief, and that we have whatever time is available thereafter in which to serve and file our reply brief.

Mr. Goldstein: We would like to have a few days on the reply brief; it ought to be given us some little time before the argument.

Judge Wilkerson: And the reply brief to be filed how
6617 many days before the oral argument?

Mr. Adcock: Five days.

Mr. Goldstein: November 15th; how long do you want for a reply brief? Make it December 5th?

Mr. Bracelen: Very good.

Mr. Goldstein: On December 5th, reply brief.

Mr. Adcock: And in the argument to the court along about the 10th.

Judge Wilkerson: Well, we will have to fix the exact date. That is a matter that I would not like to set without conferring with Judge Evans and Judge Page.

Mr. Thompson: And we will have the opportunity, your Honor, to discuss the date?"